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AMERICAN ARTISAN and Hardware Record

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"Invisible Joint" Metal Ceiling in Meat Market of Louis Saffert, Milwaukee, Wis. Erected by Leo Held, Milwaukee.

"Invisible Joint" METAL CEILINGS and SIDE WALLS

TRADE MARK

OUR LARGE BEAUTI-
FULLY ILLUSTRATED
"INVISIBLE JOINT"
CEILING CATALOG
SENT ON REQUEST.

PLANS AND ESTI-
MATES FURNISHED
FROM SKETCHES.

When you install an "Invisible Joint" Metal Ceiling for a customer you can feel certain that you have made another lasting friend.

The name "Invisible Joint" offers a sense of security and dependability. It's like meeting a true and tried friend in a crowd.

Perfect fitting plates, repressed beads and die cut nail holes make the erecting of "Invisible Joint" Metal Ceilings, simple, easy and fast. A neat profit on each job will result. Our many varied and beautiful designs will please the most critical.

MILWAUKEE CORRUGATING CO.

KANSAS CITY

MILWAUKEE

MINNEAPOLIS





NOW you are able to get Standing Seam Horse Head Zinc Roofing. It is shipped in casks complete with nails, clips and instruction sheets. Each cask is sufficient to cover one square.

Zinc roofs endure. They do not rust. They need no protective coatings. They will not leak.

If your regular jobber cannot supply you, write us direct.

THE NEW JERSEY ZINC COMPANY
160 Front Street (Established 1848) New York City

CHICAGO: Mineral Point Zinc Company.
PITTSBURGH: The New Jersey Zinc Sales Co.
SAN FRANCISCO: The New Jersey Zinc Sales Co.
CLEVELAND: The New Jersey Zinc Sales Co.

The world's standard for zinc products



Founded 1880 by Daniel Stern

Thoroughly Covers
the Hardware, Stove,
Sheet Metal, and
Warm Air Heating and
Ventilating Interests

AMERICAN ARTISAN and Hardware Record

Address all communications
and remittances to
AMERICAN ARTISAN
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VOL. 86. No. 11.

CHICAGO, SEPTEMBER 15, 1923.

\$2.00 Per Year.

HOW DO YOU OVERCOME OBJECTIONS AS TO HIGH PRICE OF YOUR FURNACE?

What do you do when a customer says that he can buy a furnace for less money than you have to ask for the grade you sell?

Do you get "huffy" and tell him that if he wants to buy a "cheap" furnace, of course he can get it for less than your price?

Or do you make a real effort to prove to him that it is to his advantage to buy a furnace that is capable of heating his home efficiently under all weather conditions, even though such a furnace—the kind you sell—costs a few dollars more?

One of the reasons for the great increase in sales that has been enjoyed by a furnace manufacturer who sells through salaried local representatives is the fact that these representatives are thoroughly trained to "sell."

They are instructed in house-to-house canvassing methods and the necessity for this personal solicitation is so strongly impressed on them that they stick to it under all conditions of trade—good and bad.

They "hunt" for prospects—

Instead of letting the prospects hunt for them.

Next comes the argument as to price. Read what this company said in a recent advertisement:

"The — costs only a little more than the ordinary furnace, and this difference is invariably made up by — fuel economy. In most cases the difference is more than made up the first year." (The name of the furnace is omitted for obvious reasons.)

True, that particular furnace is not a high priced furnace, but there are plenty of furnaces on the market that can be installed for less than this company asks, and the price at

which this "direct installation" furnace is sold is frequently higher than that asked by the local installer, although he may not think so.

If the great majority of house owners bought only a price basis, without due regard to the service to be obtained, why is it that manufacturers of high grade furnaces, if otherwise properly financing and conducting their business, are steadily gaining in prosperity while producers of "competitive" furnaces go to the wall with a frequency that might be alarming were it not for the fact that they are getting their just deserts.

It is agreed, of course, that there are some people with whom quality and satisfactory service do not count—building speculators and others of their ilk, particularly—but the average man is open to the sort of sales argument which emphasizes the value of a furnace that will last for many years without important replacements, and to the necessity for the sort of installation that will insure sufficient heat in the coldest weather.

Taking a leaf from the coal dealer's book of experience—

How does it come that so many people will pay \$18.00 for anthracite in preference to \$8.00 for Illinois coal?

Has not the quality argument something to do with it, and is it not the same man who does the buying of the coal and the furnace?

A thorough understanding of the furnace you sell and of those sold by your competitors—

And a bit of backbone, together with a definite quality sales argument—

Is all you need to sell more of the better grades of furnaces.

Random Notes and Sketches.

By Sidney Arnold

On October 15, 1923, the Salvation Army will open, in Chicago, its Home Service Campaign for the purpose of raising \$341,000, the amount of its budget for 1923-24. The drive will continue until October 31.

Many of you are already familiar with the constructive work which this worthy welfare organization has carried on throughout this country. The bravery and self-sacrificing spirit of the plucky Salvation Army lassies in the trenches "over there" will not be forgotten very soon by many men who were on the spot and have been rehabilitated.

There is no other welfare organization in existence that has undertaken so vast a work and with better spirit. This organization is deserving and it's up to us to help support it by giving till it hurts.

In New York the Salvation Army is reconstructing a 7-story building to house 80 down-and-outers. For this job \$30,000 has been raised by collecting waste papers at New York's back door.

In Chicago 50 per cent of the expense of maintaining an industrial home, accommodating 100 men, is raised by Chicago's waste paper salvage, renovated furniture, discarded books, etc.

There are 15 states which constitute the central territory, of the organization. Nineteen of these industrial homes are conducted in these states and combined they do an annual business of one-half a million dollars. The profit of this business goes to rebuilding men who are "down, but not out." Last year over \$100,000 worth of "cast-offs" were repaired and made serviceable.

So far we have only pointed to the work which the organization has done for the men. The work does not stop here; the forming of day nurseries and fresh air camps for children and their mothers, and free medical dispensaries, relief depart-

ments, community centers for the poor, is one of the most important works of the organization.

A considerable part (\$60,000) of the \$341,000 which the Army seeks to raise will go toward completing and furnishing a \$250,000 home and hospital for that most helpless of all creatures, the unmarried mother and her babe. The building is now under construction. There are 31 of these institutions in the United States.

Social work among women is another branch of the Home Service Department which will benefit by the campaign.

Here indeed is a worthy cause, men, and it deserves our support to the utmost. Perhaps those poor unfortunates have themselves to blame for their condition, but who knows? It's up to us to help wherever we can and the coming drive for \$341,000 by the Salvation Army is only one of the chances.

We can't give our time, but we can give our dollars. So remember the dates, October 15 to 31, and help a worthy cause.

* * *

Fred Muzzy, whom many of the old time hardware men will remember as one of the big salesmen for Simmons and later on for the Stevens gun people, called on me the other day.

Fred looks as young and spry as ever, even though his hair is getting somewhat worn and grey, but he is evidently still to be reckoned with in the selling game, for he told me that in the last couple of weeks he had disposed of over \$100,000 worth of black silver fox pelts. He owns a fox ranch up in Prince Edward Island, you know.

* * *

Don't mail that sarcastic, bitter letter which you wrote in an angry mood and which gave you a feeling of spiteful satisfaction because you

thought you had done a smart thing and were going to "get square" with someone who had insulted or injured you—burn it. There is a better way, love's way. Try it.

Don't say the mean thing you have been planning to say to someone you think has been mean to you. Instead, give him the love thought, the magnanimous thought. Say to yourself: "He is my brother. No matter what he has done, I can't be mean to him. I must show my friendliness, my magnanimity to this brother."

* * *

L. C. Burke, of Burke Brothers' Plumbing & Hardware Company, Gary, Indiana, noticed a little boy in his store the other day, looking rather dolefully at him and asked what was the trouble.

Small boy: "Say, Mister, was you ever a little boy?"

Burke: "Why certainly."

Small boy: "And did you ever visit the woodshed with your Pop?"

Burke (sympathetically): "Yes, yes, lad, I know."

Small boy: "And after your Pop had finished tannin' you, did you ever make a vow that if you ever had the chance you'd do all you could to stop such injustice to little boys?"

Burke (reaching for his handkerchief): "Yes, lad, I did, I did, many a time."

Small boy: "Well, I want five pounds of nails, and I've lost the money."

* * *

Ed Hoffeld, President of the Ferdinand Dieckmann Company, received recently a telegram, collect, from Jule Gerock who was at that time sojourning in San Francisco. After paying the money he opened it. It read: "I am enjoying perfect health."

After reading it he got a large hat box, and filled it with bricks, sent it by express, C. O. D., to Julius' home in St. Louis.

In it was a note which ran as follows: "This is the load that fell off my heart when I received your telegram."

Hart & Cooley Company Suffer Great Loss by Death of E. Clayton Goodwin, Treasurer Since 1909.

Public Spirited Citizen, Progressive Business Man, Efficient Workman, Clear Thinking, Loving Father and Husband.

A FEW days ago there passed away a man who by his own efforts had mounted from the job of machinist to the office of treasurer of the company where he was employed in the short space of seven years.

E. Clayton Goodwin, treasurer of the Hart & Cooley Company, went to his reward on September 5th in the city which had come to regard him as one of its leaders in everything that was done for the betterment of that community. Funeral services were held at his home, 260 Corwin Avenue, New Britain, Connecticut, on September 7th, interment being at Terryville, where he was born 57 years ago.

Mr. Goodwin came to the Hart & Cooley plant from the Eagle Lock Co. in 1902, to take charge of the machine room. In 1903 he was made superintendent of the plant. In 1907 he was elected a director, in 1908 he was made assistant treasurer, and one year later became treasurer, which position he held until the time of his death.

He also was a director of the Hart & Hutchinson Co. and a director and vice-president of the Fafnir Bearing Co. He was vice-president of the Rotary Club, for several years treasurer of the Shuttle Meadow Club and a member of the New Britain Club. He was an active member of the First Congregational Church, and some time ago was deacon.

The high regard in which Mr. Goodwin was held by his fellow citizens and business associates can not be better expressed than was done in the following leading editorial of the September 6th issue of the *New Britain Herald*:

"A man of New Britain has died leaving an example of fidelity to trust, sincerity of thought and action

and devotion to duty that is rarely equaled. No person, associated in any way with E. Clayton Goodwin, could fail to feel the inspiration of his life. Young men, recalling experiences with him, speak of his compelling example of straightforwardness. Older men, dealing with him in business or matters pertaining to the welfare of the city and especially its children, felt the atmosphere of honest purpose which dominated him. For years a member of a board which was often criticized Mr. Goodwin's good faith and conscientious work on that board brought praise from the most bitter critics of its decisions.

"He was a quiet, almost retiring man who sought always to convince those whose opinion differed from his by a simple marshalling of the facts as they had developed under his close scrutiny. And, at the end of his presentation of his case those who still held contrary opinions held, too, a greater respect for the man who had unselfishly devoted his time and thought to matters which would have been no official concern of his had not the people repeatedly called upon him to take care of them for them.

"The tale of Mr. Goodwin's public life and private constructive activities is the sort of tale that discloses a firm, lovable character, not lacking in strength because of his gentleness; not wanting in force despite the unobtrusiveness of his actions. He was the sort of man of the friendship of whom one is proud; the sort of a man who, when his activities cease, leaves a standard for others to follow if they would help to strength, courage and happiness their own, the people of their community—the people of the world.

"New Britain was proud of E.

Clayton Goodwin. Those who knew him will hold his memory dear."

Ventilation and Its Relation to Health Is Discussed Here.

In one of the Chicago newspapers there appeared recently an article by Henry Smith Williams, entitled "Ventilation for Health," which is well worth reading, as it reflects to some extent the layman's view of this important subject.

The article follows:

Ventilation for Health.

The doctrine that fresh air and plenty of it, day and night, summer and winter, makes for health has become an article of faith with most hygienists. The doctrine has found support in the practical experience of sanitariums for tuberculosis in particular; and the out-of-door sleeping porch has been heralded as a health-builder and life-saver.

The doctrine is alluring, and on its face plausible, considering the systemic need of oxygen. Yet it has not gone quite unchallenged. It has been suggested, for example, that the coldness of the air rather than its mere freshness gives it value (through stimulating formation of blood corpuscles) in the Adirondack sanitariums; and a prominent naturalist, who has spent much time in the open, has even propounded the heresy that too much ventilation may be positively detrimental to health and the direct cause of many a premature death.

A view so unorthodox serves at least to call attention to the fact that our knowledge of ventilation as bearing on human health is for the most part empirical. Recent experiments in which carbonic acid gas is used in the treatment of tuberculosis tend further to set one thinking along new lines; and it becomes fairly evident that it would be well to have definite information about a good many aspects of the problem of ventilation that hitherto have been rather taken for granted.

Such information, it is reasonable to hope, will presently be forthcoming, for a series of tests now under way at Pittsburgh, under

auspices of the United States Bureau of Mines, should go a long way toward settling some, at least, of the open problems. The tests are designed to furnish data for the hygienic regulation of air supply in homes, business establishments and places of public gathering.

The tests are conducted in an air-tight chamber lined with four inches of cork, into which air of varying quality is piped. Predetermined and carefully controlled and recorded variations as to chemical composition, temperature, moisture and rate of change of the air are co-ordinated with observed bodily changes of the human subjects within the chamber. Pulse rate, blood pressure and bodily temperature—surface and internal—are among the physiological processes under observation. It is to be hoped that persons suffering from various maladies, notably affections of the lungs and heart, will ultimately be subjected to similar observation, though this perhaps is not essential to the purposes of the present investigation.

In any event, these tests can scarcely fail, if carried to a logical conclusion, to lay the foundation for a scientific knowledge of the effects of "bad" air on the human organism, and thereby to make possible the checking up of a good many current ideas about ventilation that had their origin in plausible conjecture rather than in assured knowledge.

Majestic Company Coöperates with Installer to Push Majestic Furnaces.

Furnace manufacturers, whether of the pipe or pipeless variety, have come, in the final analysis, to the conclusion that unless the home owner comes in contact with the company advertising in some form or other, the result will be that furnaces will not be sold. Consequently, they are making every effort possible to supplement the installer's advertising in that installers' home town. They realize that the ad will have greater weight if the installer's name appears than if the company signs the ad. Here the human ele-

ment enters. People can go to the installer, see the furnace and secure a personal interview about the furnace.

The ad is reprinted from the Pontiac, Illinois, *Leader*, and the installer's name as well as that of the furnace are well placed. The ad is designed to make the reader associate the idea of furnaces with the Majestic, so as to make an indelible impression upon the mind.

given the system a thorough trial. What a man says he can and will do, in some instances, is far different from what he actually does when the actual doing begins. Here is where character counts. A man with a record of performance behind him is the next thing to money in the bank. Advertising must educate; it must record what the article offered has done in the past; it must tell what is to be expected from the

IF YOU ARE CONTEMPLATING THE PURCHASE OF A FURNACE

BE SURE THAT YOU DO NOT OVERLOOK THE BEST THAT THE MARKET AFFORDS. FOR ECONOMY AND THE BEST OF SATISFACTION, IN WARM AIR HEATING, YOU ARE SURE TO BE RIGHT IF YOU BUY

THE MAJESTIC Standard Furnace



The chances are you will only buy one or two Furnaces during your lifetime. Therefore, your selection should be made with the greatest of care. Choose a Furnace that will heat your house comfortably in the coldest weather—a Furnace that will operate efficiently and save you money on your coal bills.

The MAJESTIC STANDARD is such a Furnace. It is a high grade Furnace that embodies all the best features of other Furnaces and more, and it will give you many years of service beyond the limit of the ordinary cast or steel furnace.

Only the highest grade iron mixture is used. Weight is put where it is needed to give durability. The radiator is a heavy one-piece cored casting—no joints to leak gas or smoke. It is extra wide and deep, insuring good draft and giving extra heating surface. It is also easily cleaned. The large double feed door appeals to every user. It permits the use of chunk wood in the fall and spring, and large lump coal in the winter, and it cuts out half the trips to the coal bin.

Gas and dust-proof joints are especially noteworthy as a high-class feature. Each casting has an extra flange which entirely covers the cup joint of the casting below. This flange seals the furnace cement in the joint. The cement cannot work out as the casting contracts and expands. The MAJESTIC has only a few joints and these are made tight.

Estimates Furnished Free

LOUIS A. NORLUND

TIN ROOFING, SPOUTING AND FURNACE REPAIRING

1201 North Mill Street

Phone 2517

Advertisement Shows How Majestic Company Coöperates with Furnace Installer in Keeping Name Before Public.

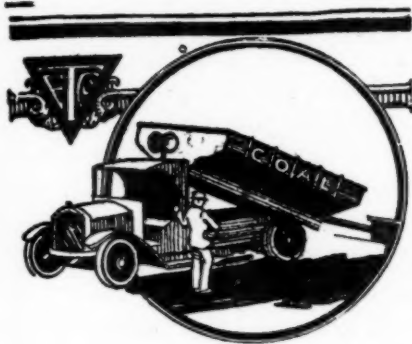
This is a stroke not only for present business, but to build good will and keep the name before the public. The building of good will is a slow process; it cannot, from the nature of the circumstances surrounding it, have a mushroom growth. It takes constant pounding and repetition of the name, associating this with a long and continuous performance which has given good results to those people who have

article—nothing more, nothing less—if it is to be useful. The accompanying ad has done this. The arguments in favor of the Majestic are very well set forth.

Do not act scornful or disdainful when a customer asks for something you do not carry because you think it deficient in quality. It's not for you to set the standards for your customers.

Thatcher Uses Commonplace Experience to Introduce Furnace Subject.

The foremost among advertisers today are finding value in the commonplace occurrences which a per-

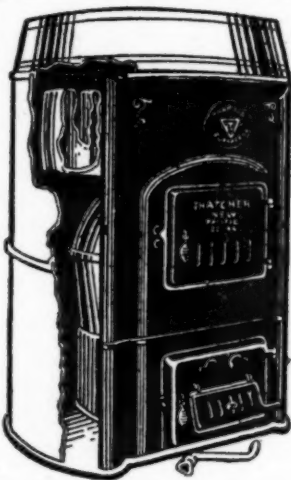


Reduce the Number of Those Loads

How many times a year does this happen to your coal bin? Why not reduce the number of coal deliveries and get perfect heat as well? Coal costs won't worry you if you install a

THATCHER PACIFIC FURNACE

There is a "Pacific" for every home, church, theatre, club, store. The wide range of casing sizes, from 32 to 52 inches in diameter, make it suitable for all conditions. Burns hard or soft coal.



Drop in and let us show you the many unusual features of this Furnace and how it pays for itself over and over again.

Schumacher and Mellum

Everyday Experiences Used to Promote Thatcher Furnace Sales.

son sees enacted each day perhaps a half dozen times. In the accompanying reprinted ad of Schumacher and Mellum, the Thatcher Furnace

Company has made excellent use, in their advertising of a scene which is so universal as to make its appeal very strong. How many times have you seen a truck backed up against a building unloading coal? Perhaps you see it once a day on the average. If you are a home owner, you know what the cost of each one of these loads of fuel is. The company here tells you to reduce the number of those loads, and, knowing the cost of them, you are immediately an interested reader, eager to learn how you can reduce the number of those loads.

The illustration at the top of the ad takes the place of the headline and it serves its purpose very well indeed. A better introduction could hardly have been produced. It precipitates the reader into the midst of things associated with his past experience and strikes him in the vulnerable spot and then tells him the story in a few words.

What Is Your Code of Ethics If You Have One?

On the fly leaf of the 1923 Guide of the American Society of Heating and Ventilating Engineers there is printed a "Code of Ethics for Engineers," the text of which is well worth reading and considering.

It would be well for the installers and manufacturers if they would formulate and live up to a code of ethics embodying the same essential features as that of the heating and ventilating engineers.

Code of Ethics for Engineers.

Engineering work has become an increasingly important factor in the progress of civilization and in the welfare of the community. The engineering profession is held responsible for the planning, construction and operation of such work and is entitled to the position and authority which will enable it to discharge this responsibility and to render effective service to humanity.

That the dignity of their chosen profession may be maintained, it is the duty of all engineers to conduct themselves according to the principles of the following Code of Ethics:

1—The engineer will carry on his professional work in a spirit of fairness to employes and contractors, fidelity to clients and employers, loyalty to his country and devotion to high ideals of courtesy and personal honor.

2—He will refrain from associating himself with or allowing the use of his name by an enterprise of questionable character.

3—He will advertise only in a dignified manner, being careful to avoid misleading statements.

4—He will regard as confidential any information obtained by him as to the business affairs and technical methods or processes of a client or employer.

5—He will inform a client or employer of any business connections, interests or affiliations which might influence his judgment or impair the disinterested quality of his services.

6—He will refrain from using any improper or questionable methods of soliciting professional work and will decline to pay or to accept commissions for securing such work.

7—He will accept compensation, financial or otherwise, for a particular service, from one source only, except with the full knowledge and consent of all interested parties.

8—He will not use unfair means to win professional advancement or to injure the chances of another engineer to secure and hold employment.

9—He will cooperate in upbuilding the engineering profession by exchanging general information and experience with his fellow engineers and students of engineering and also by contributing to work of engineering societies, schools of applied science and the technical press.

10—He will interest himself in the public welfare in behalf of which he will be ready to apply his special knowledge, skill and training for the use and benefit of mankind.

Roy D. Hunt Is Recovering from Appendicitis Operation.

We are glad to pass on the good news that Roy D. Hunt, General Manager of the Standard Foundry & Furnace Company, is recovering from a sudden attack of appendicitis.

Roy was taken sick while in an automobile on the way to Chicago and had to return to his home in DeKalb, from where he was sent at once to the City hospital for an operation the same day.

Charlie Allen tells us that the Alderman will be ready to go to work again in a couple of weeks.

Harry Fox, Secretary-Treasurer of Peerless Foundry Company, Dies at Age of 37 Years.

J. Harry Fox, secretary and treasurer of the Peerless Foundry Company, Indianapolis, died recently of appendicitis at the age of 37. Before entering the employ of the company he had worked several years for an Indianapolis newspaper. He had been connected with the company in various positions for the last 18 years.

Past Performance Prepares Way for Future Furnace Sales.

Statistics are generally considered dry and uninteresting. They can, however, be used to a very good advantage at times for the purpose of reassurance. If you were a young man, recently married, and were considering the construction of a

gate. Statistics would prove quite valuable in that case.

Now, the accompanying advertisement, reprinted from the *Baraboo* (Wisconsin) *Republic*, shows how the Michigan Stove Company has made a good use of the statistics which they have compiled during the fifty-two years which they have been doing business. They have per-

It will be seen from this ad and from others of the same type that the tendency is to feature one point strongly, rather than enumerating all of the good points of the article advertised.

It is thought that greater progress in impressing the name on the public is gained in this manner.

Your banker, prospective purchasers of your business, insurance men, and in the end, the executors of your estate, perhaps your wife, all want the figures of your business. Have them ready.

Fully Covered by Insurance Is Misleading Statement.

That the "loss was fully covered by insurance" is a decidedly misleading statement. Every burned equipment and every bit of destroyed material is so much gone forever. By being destroyed before it has done the fruitful work designed for it, it has suffered death as absolutely as a man suffers death. Other men may be born and other material may be dug from the earth or cut from the forests, but these are new creations demanding all the expenditure of effort new creations necessarily involve. A burned industry is dead, and it stays dead until it is laboriously built up again. The fire insurance companies have not an ounce of raw material in their till, not a plank or a bar of steel, not a rivet or a wheel. They have dollars merely, dollars collected for indemnities; and all the dollars in this country piled one upon another cannot produce a penny's worth of anything by themselves. Insurance merely collects money from us all to finance the individual who has the fire. This individual is generally regarded as an object for sympathy, but in most cases he is a public offender and should be looked upon as such. The fire waste is the great American pickpocket, but it operates more through the careless than through the cunning. We cannot catch the cunning incendiary because the careless incendiary is his guide, bulwark and shield.

Send photos of sheet metal work.



Install A GARLAND and be SURE



It is a welcome thought that in building a home or replacing your heating system, you can be SURE of Garland Warm Air heating.

A WRITTEN GUARANTEE, signed by Garland officials and signed by us, the authorized installers, assures you, in advance, of a warm home and a minimum consumption of fuel.

The foundation of this certainly is Garland's reputation as a leader, for 52 years in the manufacture of heating and cooking equipment now used in more than 4,000,000 American homes and institutions. Call at or phone.

Stortz & Coughlin

South Side

Phone 56

Advertisement Dwells on Past Performance and Written Guarantee Signed by Installer and Manufacturer to Move Furnaces.

new home, you would naturally be interested in what was "being done" in matters of heating, etc., by other people; to be more correct, you would want to know what had been done and what was at present giving the best service. You then suddenly come upon an advertisement which answers the very question you had in mind; you would think that pretty nice, and you would investi-

mitted statistics to speak for themselves.

Although the illustration shows the furnace and the Garland trade mark, the ad dwells more upon performance than any other feature. In this particular instance the written guarantee signed by Garland officials, as well as the signatures of Stortz & Coughlin, the authorized installers, is given prominence.

Constructing Roof Flange Is Simple Problem, but It Should Not Be Attempted by Sweep Method, as That Treats It as Cone.

Mechanic Inquiring for Correct Method of Making Layout for Roof Flange Will See How Easy It Is.

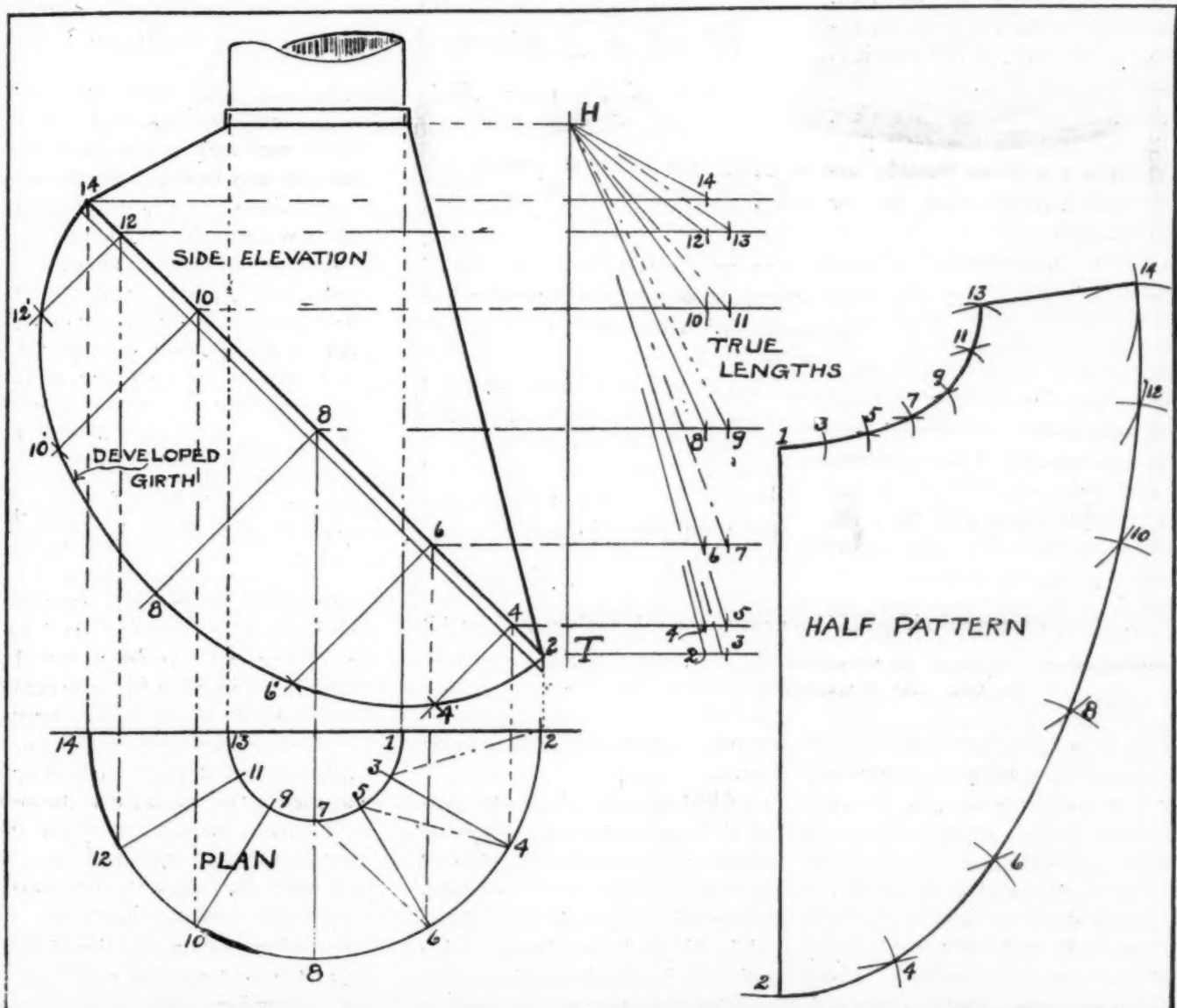
Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by O. W. Kothe, Principal, St. Louis Technical Institute, St. Louis, Missouri.

SOME time ago a mechanic inquired for the correct method of laying out a roof flange, as we show in this drawing, saying that he had worked around them quite a bit during the construction of war training camps, and had often wondered just how the correct layout was made. He said he had seen so

many mechanics cut and fit and then trim some more, and often saying that a fitting of this kind is not possible to lay out accurately, together with a lot of other self justification excuses.

Now a roof flange of this kind is a simple problem, and there is no excuse why every single mechanic

in the entire realm does not know how to lay it out. The main feature is to hold all edges around the flange equal distance from the stack. This is not always done, as some mechanics prefer to use the sweep method, and that, of course, treats this fitting as a cone, thereby cutting off the projection in the throat,



The Main Features in Making a Roof Flange Is to Hold All Edges Around the Flange Equal Distance from the Stack.

and then, in order to give it more projection, the workman sort of deforms it. It may be on this treatment that the above mechanic has reference to, that could not be developed accurately.

The first step necessary is to describe the plan by drawing a line as 2-14 and from the center describe the semi-circle of stack, using outside diameter. Then measure the distance of the flare, as 1-2, the flange is to have, and describe the larger semi-circle. Divide this into any number of equal spaces, and draw lines to the center, which also divides the inner-circle in the same number of divisions. After this, construct a part elevation, at least the roof line 2-14, making it to any pitch to suit the slope of roof. The height of the flange can be adjusted at pleasure; in this case it is represented by H-T.

So from each point in the plan, as 2-4-6-8-10-12-14, we erect lines to this roof line 2-14. Now as our plan shows a vertical view, and our elevation has a slant cut, therefore, the plan is foreshortened. To give girth to the roof line of elevation, we square out lines from each point in roof line, as 4-6-8-10-12. With dividers we pick the half diameter lines, from plan, and set them as 4-4', 6-6', 8-8', etc. Through these new intersections, we sketch the semi-ellipse, and that will be the developed girth along the edge of the plan. The next step is to develop the true lengths.

Observe, the plan lines represent base lines of triangles and as the elevation rises, different altitudes are established. So from each point in the roof line 2-14, we square over horizontal lines past H-T. Then from plan, we pick the lines as 1-2 and 2-3 and set them as T-2 and T-3. As all the plan lines have a similar base, we simply carry these lines up, by either squaring up lines or setting them off, each space on the horizontal lines projected from roof line. This gives points 2-3-4-5-6-7, etc., in true length, and when lines are drawn to H, you have the true length lines.

To set out the pattern, we draw a line, as 1-2, equal to H-2 or equal to the heel line of elevation, as that is a true length also. Then pick the girth space 1-3 from plan, and using 1 in pattern as center, strike arc as at 3. Next pick the developed girth space 2-4', and using point 2 in pattern as center, strike arc as at 4. Pick the true length H-3, and using point 2 in pattern as center, cross arcs in point 3. Next pick true length 4-H, and using new point 3 as center, cross arcs in point 4.

Now strike the arc 5 equal to space 3-5 of the plan and the arc 6 equal to space 4'-6' of developed girth. Then pick true length H-5,

and using new point 4 in pattern as center, cross arcs in point 5. After this pick true length H-6, and using new point 5 as center, cross arcs in point 6. Repeat this by striking arcs 7 equal to 5-7 of plan and arc 8 equal to 6'-8' and then cross these with true lengths, H-7 and H-8. Continue in this way until points 13-14 are established.

This gives the pattern for the half side, and the other side can be obtained by simply reversing. Laps for flanging or edges must be added extra, since our pattern is only net. This method will work out at no matter what the size of the stack, the flare of the flange or the pitch of the roof.

Do Chicago Sheet Metal Contractors Really Want a Business Organization—Now?

Four of Them Say That They Do, and That Only by Getting Such an Association Can Conditions Be Improved.

CHICAGO sheet metal contractors are not all dead, at least so far as letter writing is concerned, nor can it be said justly that some of them do not see the value of a live organization of their craft in this great city.

The editorial which was published in our September eighth issue has resulted in considerable comment which has come to us by word of mouth and in several letters, some of which are quoted in the following:

TO AMERICAN ARTISAN:

That editorial of yours last Saturday was a humdinger. You hit the nail on the head—and you hit me square in the face.

I have been in business for over ten years, graduating from a union shop.

When I started for myself there was no organization of sheet metal contractors except the "Number 1" which was composed of firms employing only union labor and doing mainly big and new construction work. So far as I know, there were only about seventy members.

I did not feel that I could afford to pay the dues in that association.

Fifty dollars a year, out of my own pocket, looked like a very large sum at the time when everything was going out and very little coming in.

Then the "Allied Association" was formed and I joined, but although I stayed with it until it died, I never felt that it did anything for me.

As for the "Number 1"—at the present time they are running open shops, and that in itself is to me a very good reason for not joining that association.

The United Sheet Metal Contractors, as an organization, is still in the making. I have been at a couple of their meetings, and, to speak frankly, there has been too much talk and too little real action.

I am to blame as much as anybody else, for although I am a member I haven't made a real effort to bring in a new prospect and that is what has to be done if the United is going to be worth anything.

I will have two applications with me at the next meeting on Thursday, September 20th.

Let everybody else do the same.

NORTHSIDER.

The following letter is short and to the point:

TO AMERICAN ARTISAN:

You sure said something in your editorial last Saturday. We sheet metal contractors are a bunch of weak-kneed sisters, whining because things are bad, but not willing to do anything to make them better.

Railing at the jobber for selling supplies to the "snip and firepot contractor" doesn't do any good. But if a thousand organized contractors put the case before the jobbers, in the right way, these outlaws wouldn't be able to cut in on legitimate men who have real money invested.

Me for the United Sheet Metal Contractors at their next meeting, Thursday, September 20th, and I won't come alone, either.

CONTRACTOR.

This man is for the big organization:

TO AMERICAN ARTISAN:

I thoroughly agree with your editorial. The sheet metal contractors of Chicago need nothing more than a strong organization, but it is up to them to make that organization strong, and numbers is what will do it. Let every sheet metal contractor join the old association which has really done things that mean thousands of dollars to the men in the business.

NUMBER ONE.

Here is a letter that says something worth while:

TO AMERICAN ARTISAN:

That editorial of yours hit me in my sore spot, and it still hurts.

I am one of the fellows who have been talking about bad conditions in the trade and have never done anything to make them better.

But, I couldn't see that there was much to the old "Allied" that we have had, so when the invitations came to attend the meetings of the United Sheet Metal Contractors, I simply threw them in the waste basket.

That was wrong, of course. For even if this other association might not have done much good, the "Big

Fellows" did do a lot of good for the trade, even if we could not go along with them in some things, and there is no reason why a new association, properly organized, should not be able to accomplish at least some of the things that must be done to put the trade on a better footing.

So next Thursday I am coming up to the Hardware Club and pay in my little ten dollars for initiation fee and a couple of my neighbor tinnners are coming with me.

I am for the new association.

LINCOLN AVENUE.

For reasons satisfactory to themselves, these four sheet metal contractors did not wish us to quote

ALL SHEET METAL CONTRACTORS IN CHICAGO

Are urged to be present at the next meeting of the United Sheet Metal Contractors of Chicago, which will be held Thursday, September 20th, 8 P. M., in the Hardware Clubrooms, 11th floor, State-Lake Building.

their names, but we have given their letters in full, in order that the men who operate sheet metal shops in Chicago may have this important subject brought to them in as forceful a manner as possible.

It is only fair to state, however, that one of the principal officers of the "Number One" association informed the Editor of AMERICAN ARTISAN that while a definite effort would shortly be made to bring back as many as possible of the members of that organization who dropped out during the past year, no campaign is being planned to canvass the contractors who have not belonged to that organization.

Under these circumstances, it would seem that the United Sheet Metal Contractors, which is now conducting a canvass, is the organization to look to for the work which it is hoped will result in abolishing some of the many abuses under which the trade in Chicago now suffers.

AMERICAN ARTISAN holds no brief for that organization, and is lending a helping hand in its efforts for no other reason than the fact that a truly active body of the sheet metal contractors—and particularly those of the smaller class—is sorely needed.

But the only way that such an association will ever be formed is by having all, or at least a large portion of those who are in that business do their share in the preliminary work.

And the preliminary work consists in:

First—Joining the association.

Second—Inducing your nearest competitors to become members.

Washington Sheet Metal Men Prepare for 1924 Convention.

The members of the Washington, D. C., Local of the National Association of Sheet Metal Contractors lost no time in beginning preparations for the 1924 Convention.

At a meeting of the local the following Convention Committee was appointed:

P. F. Brandstedt, Chairman, J. A. Pierpoint, Joseph A. Daly, Max Walten, William J. Hooper, E. J. Ewing, Charles Ochtershausen, M. A. Hedderman, J. D. Thompson and Charles Johnson.

This Committee will hold weekly meetings, outline the work of the Convention, and appoint the various sub-committees. The Committee assures everyone attending that the 1924 Convention will be the most educational business trip he has ever undertaken.

Marcus A. Follansbee Is Now Vice-President of C. S. Davis & Company, Sheet Steel Distributors.

According to a statement from C. S. Davis & Company, distributors of sheet steel, tin and terne plates at 37th and Iron Streets, Chicago, Illinois, Marcus A. Follansbee has become Vice-President of this Company, in charge of the new department which will specialize on Follansbee Brothers' products.

Views and Impressions from the Seat of the Early Tin Plate District of Wales

Hollinshead N. Taylor Visits Tin Plate Plant Started 225 Years Ago by One of His Forebears.

HOLLINSHEAD N. TAYLOR, President of the N. & G. Taylor Company, manufacturers of "Target & Arrow" tin plate, spent his vacation in Great Britain and part of the time was occupied with an automobile tour through the tin plate section of Wales where, more than two hundred years ago, the first Welsh tin plate was made by one of Mr. Taylor's forebears.

We persuaded Mr. Taylor to tell us something of his impressions during this trip, and as a result the following article has been written by him. It will be read with much interest, we are sure:

In my office at Third and Chestnut Streets, Philadelphia, overlooking that section of the city hallowed by memories of the beginnings of this great nation, hangs a curious old portrait of a pioneer spirit—an ancestor of mine, Major John Hanbury by name, of Pontypool Park, who first introduced into England the art of tinning iron sheets. According to the legend upon the portrait, he was "Born 1664. Died highly respected, beloved and lamented, in 1734."

Many people have expressed great interest in the rather unusual circumstances that after a lapse of some two hundred and twenty-five years descendants of this pioneer are still engaged in the industry he founded. Gazing at this picture looking down at me through the lapse of centuries as it were, I have often wondered what a story this enterprising forebear might relate—of investigations in foreign lands, probably in Saxony where traditions hold the art was first discovered—of skepticism to overcome at home—of difficulties in persuading capital to venture into the new-fangled scheme—of vicissitudes in training workmen—of endless difficulties, delays and discouragements requiring high faith and courage to carry

the enterprise through to success. Surely, a rich reward was his due and contrary to the lot of many pioneers, he was not denied it. But more of that later.

A beautiful summer afternoon late in July of 1923 found the writer on pleasure bent via automobile, following the picturesque valley of the Wye River, the historic boundary between the Welsh and the Saxons. Our route led us through some of the loveliest river scenery



Hollinshead N. Taylor.

in England—through Monmouth, the birthplace of Henry the Fifth, with a memorial statue in the market place to the Honorable C. S. Rolls of Rolls-Royce fame, killed in an aeroplane accident in 1910. A few miles beyond we passed the ruins of Tintern Abbey on a narrow strip of level river margin encircled by thickly wooded hills. Probably the name of the church had no relation to the extensive tin and terne industry later established nearby, but the similarity is curious. Through Chepstow and Newport our road ran with distant glimpses

of the wide expanses of the Bristol Channel.

Time did not permit of a more extended circuit into Wales by way of Cardiff and Swansea, but I was loath to leave without a visit to a Welsh tin plate works. So, following the valley of the Usk, a salmon stream of some reputation, we came to the little town of Usk and there made inquiry of an officer in charge of traffic at the village crossroads. The uniform of this officer was in all respects but one similar to that of the well-known English "Bobby." There was the usual helmet, the arm-band, the trim-fitting blue uniform, but the striking exception that caught our eye was that the shoulders of the uniform were covered with chain mail—small, brightly polished links of steel. Whether these bore some historic significance or were merely for protection or for a designation of rank, we did not learn, being busily engaged in inquiring as to the whereabouts of the nearest tin plate works and experiencing some slight difficulty in making our American speech intelligible to him.

First Tin Plate Works in Wales.

From him we learned that the nearest plant was at Pontypool, only a few miles to the westward. More by accident than by design we had stumbled upon the one plant in all of Wales that held the greatest interest for us. Pontypool is a busy little town with several large manufacturing plants, among them one of the works of the extensive combination of steel, sheet and tin plate works known as Baldwins, Limited, the concern with which Honorable Stanley Baldwin, present Premier of Great Britain, was formerly connected, also the Pontypool Works of Partridge, Thomas & John Paton, another combination including coal mines and several tin plate works at various points in Wales.

At the latter plant I was cordially welcomed by genial Tom Williams, the manager, and from him I verified my surmise that this was the identical location of the original plant established by John Hanbury in 1703. In fact, part of the orig-

inal buildings and equipment are still being used. The main chimney of the works, shown in the accompanying photograph, is the original masonry stack built when the plant was first constructed.

Since that time there have been many changes, including a 40-foot extension of this stack, and while the present buildings of the plant are for the most part of modern steel and brick construction, some of these are supported by the masonry arches and foundations of the original buildings. The hot mills and cold rolls in this plant are much

Their tin house appeared to be well equipped as to tinning machinery, but was not to be compared with our modern American tin houses for light, ventilation and good working conditions.

At the time of my visit the plant was running night and day on coke tin plate. They were not equipped to make terne plate.

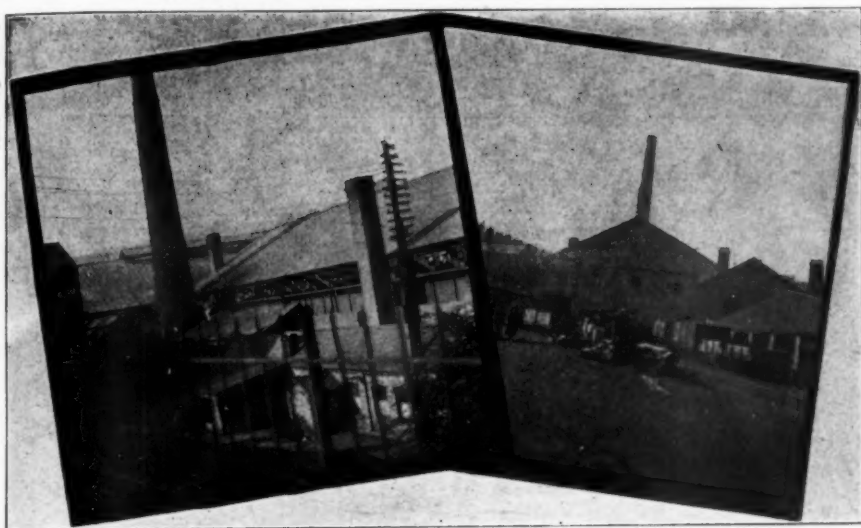
I noticed there a curious type of automatic catcher that was new to me, in use on the delivery side of the tinning machine. This caught the plates as they emerged from the rolls and transferred them to the

pence per hour (about 17 cents) and with skilled wages proportionately low, the Welsh makers have a tremendous advantage over the American mills in producing an article that calls for the work of so many hands.

Hanbury Estate Now Public Park.

As our time was limited, our visit to this plant was necessarily short, but before leaving Pontypool we crossed the old bridge spanning the small stream that runs through the valley in which the town is located—the name of the town itself being reminiscent of a bridge near a small body of water—and entered the extensive grounds of the Hanbury estate, presented by the family to the city of Pontypool several years ago as a public park. Here was a stately mansion house with a columned portico entrance and porches looking out over a wide expanse of lawn and gardens, and in the rear extensive buildings for servants' quarters, stables, coach houses, malt houses, greenhouses, etc., such as pertained to a large and wealthy estate. Today these are for the most part unused, the main residence being occupied by Belgian refugee nuns who are now conducting a school there for young girls. The grounds of the estate were very extensive, with many beautiful large shade trees and several features of especial interest, one of them a curiously decorated grotto, and another a ceremonial circle of stones, the scene of the "Bardic Gorsedd," an impressive religious service held each year perpetuating a custom of great antiquity. Later, in a little book store in the village, I picked up a pamphlet describing this ancient ceremony, and was struck by the similarity between Welsh and Latin words — (cariad — caritas — loving kindness; Duw—Deus—God).

As the Latin invasion of Britain stopped short of the Welsh border, it is unlikely that this similarity of words is a survival of the Roman occupation of the island, but rather that the Welsh race, whose origin is shrouded in mystery, sprang from the same ancient stock as the Romans, possibly one of the lost tribes



Pontypool Works of Partridge, Thomas and John Paton; Another View of the Works Showing the Stack Built in 1703.

smaller in size than those used in our American mills, and a primitive method of former years is still employed in changing rolls by means of an overhead hoist supported by cast iron columns. These columns, about one foot in diameter, are solid and were part of the early equipment of the mill. A new overhead crane is now being installed which will serve the entire hot mill and cold rolling building, and with this in use in a few months roll changes will be handled in a more modern and economical way.

Their method of pickling the sheets differs from ours. In place of the customary Mesta pickler they carry their black plate around the cycle of pickling and washing, by means of an overhead monorail conveyor system from which the crates carrying the plates are suspended.

cleaning machines, which were the old-fashioned "Branner" type. These were formerly used in this country, but were superseded many years ago by a more effective American invention.

Their sheet bars come to them in about 15-foot lengths and an interesting comparison between American and English railroad equipment is shown in the fact that even these short bars, half the length of the American practice, are much too long for the tiny English freight cars and have to be loaded with the ends projecting, as the accompanying illustration shows. Shifting and "spotting" of freight cars around a Welsh plant is a simple matter, requiring the effort of one or, at most, two men to push the car to the desired point. With the rate of pay for common labor at nine

of Israel, the Latin tongue having its origin in the Hebrew language.

American Advertisements Meet Them.

As our time was short, we were obliged reluctantly to decline the invitation of Mr. Williams to dine with him and spend some time in Pontypool as his guests. He seemed to be glad of an opportunity to entertain one of the American branch of the Hanbury family, probably the first to return to the ancestral home, certainly from the writer's family connection, for some two hundred years or more. Ours was not the only American invasion of

not in fact, for the product of the industry that had its small beginning here two hundred and twenty years ago has since spread to all parts of the globe, having become one of the vital necessities of our modern civilization. What an astounding vision for the pioneer if he could return today to witness it! Tin plate for roofs, for household utensils, for containers, for thousands of purposes intimately related to our daily life. Well might he say in the words of Sir Christopher Wren, the great builder of St. Paul's Cathedral, graven on his tomb in

conditions as rapidly as possible. Since everybody is interested and responsible for the conditions, it is up to everybody to undo the knotty problems that have caused the distasteful state of affairs.

The increasing tendency of the people throughout the country is to stand for bigger and better things, for quality in everything. The truth is desired about the things we purchase and the things we do. The square deal, the fair price, the fair profit, has a better showing today than ever before. Eminent authorities have predicted that within the



Tin Plate Bars in Railroad Cars at Pontypool Works; Statue of C. S. Rolls in Monmouth, Wales; Hanbury Residence, Pontypool, Wales.

that, out-of-the-way spot, however, for as we passed along the main street, bound for Abergavenny for dinner and Hereford for the night, placards in front of the moving picture theater extolled the exploits of several well-known American film stars, and further along from the billboards a giant mother brooding over a proportionately colossal sleeping babe admonished us to "keep that school girl complexion." Then, too, had we not seen everywhere the ubiquitous Ford, as common as the English sparrow, and in one of the alcoves of the coach houses on the Hanbury estate, formerly sacred to the use of coaches and vehicles of rank and pedigree, a second-hand Buick car, much the worse for wear but still in the ring.

Sic transit gloria Hanbury!—but

that edifice, "If you would see my monument, look around you."

Let us hope that in 1953 there will be some fitting observance of the two hundred and fiftieth anniversary of the start of this great industry, both in America and in the land of its origin.

***Building for Better
Business Is Everybody's Job.***

Building for better business is the big business of the manufacturer and the merchant, in fact it is the big job for everybody.

The work of growing big is no easy task and we find in the period of making over, fluctuations where the pendulum swings equally high at both points. The big problem today is how to bring about better

next three to five years the policy upon which business is done in this country will be so completely changed that one would not recognize or connect it with the policy of the past. This is the hopeful view of the manufacturer and the merchant who is striving to produce better merchandise and sell it in an honest, business-like way.

***Coöperation Means Death of
Blind Competition Only.***

Slowly but surely the trend of thought is drawing further and further away from the old fallacy of the competitive mood. Coöperation does not mean consolidation, but it does mean the death of blind competition and the life line of successful endeavor.

South Bend Sheet Metal Contractors Hold Successful Outing and Field Day.

Island Park, Diamond Lake, Michigan, Was the Scene of Their Annual Sports Event.

Reported by E. W. Norman, Indianapolis

ISLAND PARK, Diamond Lake, Michigan, will long be remembered by every one fortunate enough to attend the annual outing of the South Bend Sheet Metal Contractors' Association. One hundred per cent attendance. Every member of the Association with "Maw" and the kids were on hand early to participate in what was to be the Association's biggest outing and Island Park's best event of the season. Much credit is due W. F. Stockford, master of ceremonies, who was responsible for the selection of the Island.

He had in mind, no doubt, the annual ball games, and the heavy hitters, that had so conspicuously demonstrated their ability at past outings. After morning practice and preliminary games, it was evident that he knew his "stuff" and before the close of the day it was unanimously conceded that as an outing manager he is a past master and the forty-nine acres was about the right size for the association games.

Every detail was worked out for the comfort and pleasure of each guest present. Soft drinks, ice cream and "what not" at every turn. Andrew Troeger and E. M. Hutchins, with Mr. Stockford, constituted the Athletic Committee. These gentlemen were chosen as athletic committee men wholly on their past record and performances.

The program was a varied one—base ball, horseshoe pitching, running and jumping races, boating, bathing, dancing and many contests for the ladies and children.

The pleasure craft Princess, operating between mainland and the Island, was chartered for the day. Anchoring early it was ready for duty as the automobiles began to arrive with the Island guests for the day.

Manager Arnold of Island Park

Hotel met the "joyfesters" with a hearty welcome. The large home-like hotel, with its spacious dancing hall and beautiful surroundings, were graciously turned over to the association.

Soon after arrival "hostilities" began, baseball practice, a few preliminary games to try out raw recruits and get the old players in form, were started. J. C. Lauber, A. D. Mass, Andrew Troeger and Henry Iseman were on the field early for their "try out" and assignment.

Lauber showed up well at start but was eliminated in the final game. Various reasons were assigned for his failure to play. It is rumored that his heavy hitting had much to do with it.

Andrew Troeger made good from the start, his clever work on first held him his position during the deciding game of the day. Andrew, being president of the association, had some influence in keeping him on the job. Henry Iseman withdrew from the final game to accept the more arduous task of official score keeper.

Morning practice about over—comes J. A. Harris, alias "Kid" Harris—the association wrestler and boxer. With him his sparring partners, Jack Ryan and Mr. Holum.

Some of Harris' competitors had arranged for a clever Welterweight to put the "skids" under him—after reaching Cassopolis and learning of his opponent's past performances, the unknown pugilist borrowed some fishing tackle and turned his back on Island Park.

Harris, a real sport, then went in for base ball and soon showed great form. Holum had the same heavy punch as last year and showed much improvement on bases.

The line-up for the championship games being decided upon—the contestants retired from the field. At

the call of the dinner-bell the picnickers gathered on the long porch, overlooking the quiet waters of Diamond Lake. Master of Ceremonies Stockford had again demonstrated his thorough knowledge of the real requirements of a first class outing—in arranging the picnic dinner.

Soup—fish—half a springer with all the trimmings down the line—well prepared and excellently served was the picnic dinner extraordinary. The Princess, anchored at the hotel landing, was ready for after dinner cruise around the Island, which every one enjoyed immensely.

Mrs. Goss and Mrs. Vorheis composed the committee looking after the contests for the ladies and children.

Much credit is due the committee and the ladies who generously assisted in making this part of the program a success.

The championship base ball game was scheduled for 4 p. m., and the game reduced to seven innings. The opposing teams, the Rivets and Snips, were under the leadership of Jack Ryan and Harry R. Jones. E. W. Norman umpired the game. Henry Iseman was score keeper.

Ryan took his regular position behind the bat while Jones took the mound for the Snips. Al Mass was selected catcher for the Snips and J. A. Harris pitched a rattling game for the Rivets. He was visibly rattled several times during the game.

The Snips began cutting into the Rivets from the start, and at the end of the fourth inning of the Snips had scored fourteen and the Rivets two runs.

The poor support given the Snips battery in the last three innings resulted in a final score of twenty to nineteen in favor of the Snips.

Bill Vargo's sensational catch in center field was the outstanding feature of the game. While in the act of drinking a bottle of pop, Bill saw a fly ball headed his way. With the bottle in his right hand he succeeded in catching the ball without dropping the bottle or losing a drop of the refreshing liquid. Bill's bat-

ting was another distinct feature of the game, as he was credited with several home runs.

Al Mass played a lively game behind the bat, beside scoring several times. J. A. Harris did some real pitching in the sixth inning; however, he came near blowing up when J. C. Lauber and A. D. Mass ran into the field, disputing some of the umpire's decisions. They were promptly ordered from the field by the umpire and the pitcher resumed his usual stride.

Vorheis is credited with a clever catch in right field. He has been unable to explain how it happened; nevertheless one batter was called out and Vorheis became a favorite of the fans.

Holum, Goss, Zeltner, John Frank, Robert Lauber and the other players showed much class in their respective positions and in another year will be ready for a tryout with the minor leagues or perhaps the "big ones."

J. C. Lauber at the beginning of the championship game announced that he would give a trophy or loving cup to the individual player making the best showing during the game. The committee named to pass on the individual playing was A. D. Mass, Henry E. Iseman and Umpire Norman, and after much deliberation the committee decided in favor of the Snips' pitcher, Harry R. Jones.

Without the permission of the recipient, we are unable to give a complete description of the loving cup, we may, however, be able to produce a picture of it later. We are informed that it is from the shop of Lauber and modeled after a familiar and popular design.

Much excitement prevailed when a bunch of jealous players, every one of which believing they were entitled to the trophy, attempted to throw the umpire in the lake. With a slight loss of wearing apparel he was able to fight them off.

The outing was a grand success from every angle and much credit is due the South Bend Sheet Metal Contractor Association members

and their families for the splendid co-operation in making this annual outing an event each year long to be remembered. The guests of the association were Miss Taylor, La

Porte; Mr. and Mrs. Beebe, Detroit; Mr. and Mrs. Harry R. Jones, Indianapolis; Mr. and Mrs. Jack Ryan, South Bend, and E. W. Norman, Indianapolis.

Detroit Sheet Metal Folks Enjoy Third Annual Armco-Pierson Corn Roast and Wiener Feast.

Links and Links of Wieners, Ears and Ears of Corn, Gallons and Gallons of Cider—and Lots and Lots of Good Time.

WHEN you see the Armco Triangle connected with anything, you know it is something worth while, and when you find the combination of Armco Triangle and Newt Pierson on an invitation, if you take the advice of one who knows from experience, you will go out of your way to accept, even if



The Invitation and Road Map.

you have to do as I did—take a six hundred mile trip to do so.

When I saw the amount of food—wieners, corn, canteloupe, rolls, cider, etc.—“Newt” had piled up at his “Ranch,” I asked him whether he expected to feed the entire population of Michigan. All he said was “Wait and you will see.” Well, I waited and I saw.

The Third Annual Corn Roast at Pierson's Ranch, Birmingham, Michigan, Friday, September 7th, may be a thing of the past as far as history is concerned, but it will



Where Corn Roast Took Place.
Above—Getting Ready.
Below—All Done.

undoubtedly be lived over, time and time again, by the Detroit Sheet Metal Folks who were lucky enough to be there.

The guests began to arrive at four-thirty, and kept coming until long after sundown, but the fire was kept burning, and the food held out,



Introducing Newt and the Family.

although all of us had—well, I am ashamed to say how many helpings.

And the nicest part of all was that it was a real family party, with the wives and kiddies there to enjoy it too.

Asks Employment of More Trained Veterans.

General Frank T. Hines, Director of the United States Veterans' Bureau, in an address before the Chamber of Commerce of the United States at New York, called upon the industrial leaders of the country to assist the government in placing at work over 600,000 incapacitated war veterans. The average length of training of the ex-service men now receiving instruction is two and one-half years. The principal lines of training which they have been receiving and the number following those lines are: 20,763 in business courses, 1,168 in mechanical trades, 11,410 in agricultural trades, 12,618 in professional courses, 11,549 in other lines of work such as shoe-making and tailoring, 8,650 in electrical trades, 7,500 in metal trades, 3,555 in building trades, and 2,775 in advertising trades. General Hines recently sent a letter to leading industrial companies, calling upon them to employ government trained men, with the result that 3,000 such men were received back into industry in April.

Notes and Queries

Peck, Stow and Wilcox Company's Line in Chicago.

From South Side Cornice Works, 4324 Cottage Grove Avenue, Chicago, Illinois.

Who in Chicago handles the Peck, Stow and Wilcox Company line?

Ans.—Joseph T. Ryerson and Son, 2558 West 16th Street, handle the line in Chicago of Peck, Stow and Wilcox Company, Southington, Connecticut.

Brass Horns for Gramophones.

From Alabama Sheet Metal Company 254 St. Michael Street, Mobile, Alabama.

Can you tell us who makes brass horns for gramophones?

Ans.—Standard Metal Manufacturing Company, Newark, New Jersey.

Oil Burners for Furnaces.

From Stoffel Brothers, Hardware, Lebanon, Illinois.

Please advise us who makes oil burners for furnaces.

Ans.—Breeding Heat and Power Corporation, 311 Vine Street, Cincinnati, Ohio; The Steam Corporation, 215 North Michigan Avenue, Chicago, Illinois, and Winslow Boiler and Engineering Company, 175 North Michigan Avenue, Chicago, Illinois.

"Director" Lawn Mower.

From S. C. Butcher, Box 68, Chehalis, Washington.

Kindly inform me who makes the "Director" lawn mower.

Ans.—F. and N. Lawn Mower Company, Richmond, Indiana.

"TiteLock" Galvanized Roofing.

From Alabama Sheet Metal Company, 254 St. Michael Street, Mobile, Alabama.

Will you please let us know who makes the "TiteLock" galvanized roofing.

Ans. — Milwaukee Corrugating Company, Milwaukee, Wisconsin.

Radio Equipment.

From H. H. Thompson, 821 White Avenue, Grand Junction, Colorado.

Where in, and around Chicago, can I buy radio equipment?

Ans.—Jackson Battery Company, 1124 Jackson Boulevard; The Continental Fibre Company, 332 South Michigan Avenue; Crosley Manufacturing Company, 28 East Jack-

son Boulevard, and Sampson Electric Company, 2334 South Wabash Avenue, all of Chicago, Illinois, and Hatfield Electric Company, Hatfield, Indiana.

Machine for Straightening Automobile Fenders.

From Abbey Sheet Metal Works, 6615 Cottage Grove Avenue, Chicago, Illinois.

Can you tell us who makes a machine for straightening out automobile fenders without removing fenders from automobile?

Ans.—Stiles Manufacturing Company, 4423 Gravois Avenue, St. Louis, Missouri.

Address of Servoss Furnace Company.
From A. H. Berner, 626 Sixth Avenue, Clinton, Iowa.

Please advise us where the Servoss Furnace Company is located.

Ans.—16 West Illinois Street, Chicago, Illinois.

Steel Windows of Casement Type.

From Baxter Sheet Metal and Heating Company, Baxter Springs, Kansas.

Will you kindly inform us who makes steel windows and frames of the casement type.

Ans.—David Lupton's Sons Company, Allegheny Avenue and Tulip Street, Philadelphia, Pennsylvania.

Asphalt Built Up Roofing.

From City Tin Shop, 106 West Main Street, Warsaw, Indiana.

Please inform us where we can get information and prices on asphalt built up roofing.

Ans.—Barber Asphalt Company, 1328 Tribune Building; The Philip Carey Company, 3611 Loomis Place, and Johns-Manville Company, Incorporated, Michigan Avenue and 18th Street; all of Chicago, Illinois.

Tea Kettle Knobs.

From George Alexander, Westerville, Ohio.

Can you tell me who makes tea kettle and coffee pot knobs that have the nut encased in the knob?

Ans.—E. B. Estes and Company, 364 Fifth Avenue, New York City.

Wire Snow Guards for Tile Roofing.
From Fiebrandt Brothers, 158 Schiller Street, Elmhurst, Illinois.

Kindly let us know who makes wire snow guards for use on tile roofing.

Ans.—Berger Brothers Company, 237 Arch Street, Philadelphia, Pennsylvania, and Merchant and Evans Company, 347 North Sheldon Street, Chicago, Illinois.

Here Are Some Interesting Figures on Cost of Operating Retail Hardware Stores.

Percentages Vary in the Various Localities, But Not Necessarily Because of Different Conditions.

IN a recent statement of the owner of a successful general hardware store in a Michigan city of about 50,000 inhabitants, the following figures were quoted as composing his separate cost items of his business:

	Per cent.
Deliveries	000.43
Profit-sharing	000.45
Coal (heating purposes)	000.15
Cartage	000.12
General Expenses	004.12
Rent (our own building)	002.98
Freights	001.84
Insurance	000.14
Salaries (also our own)	011.01
Advertising	000.54
Bad Accounts	000.12
	021.90

Without any desire to criticize in any way the various percentages nor the classifications, there are several interesting points in these figures which we believe it will be well to discuss.

First, salaries.

One entry shows that the salaries paid to all employees as well as to the owner amount to 11.01 per cent. Another entry is named "Profit Sharing" and amounting to 0.45 per cent, thus making the total salary account 11.46 per cent.

An Ohio hardware merchant who does over \$200,000 a year, in a town much smaller than the Michigan city referred to, pays his "outside" salesmen (men who spend five days a week in actual soliciting outside of the store, among farmers, etc.), on the basis of one-third of the gross margin on their sales. Taking 33 1/3 per cent as the "mark-up," their salaries would then be 25 divided by 3, or 8 1/3 per cent, but this would be only for the actual selling cost, to which must be added the salary percentage of all other employees, as well as the owner, so that 11.46 appears a low figure in proportion.

A Pennsylvania hardware store which sells over \$100,000 worth in a year shows:

Owners' salaries	\$ 9,350.00
Clerks' salaries	13,014.74
Office help salaries	2,692.00
Total	\$16,056.74

This would indicate a percentage of about 15 1/2 which is extremely high; we suspect however that in the item of "Owners' Salaries" the profit is included, but even so, 12 1/2 per cent is too much for strict selling salaries.

"General Expense" percentage is, in our opinion, too large, and the only way to reduce it is to classify the various figures of which the total is composed under the proper head, because then each item will be more carefully watched and kept within proper bounds.

The "advertising" percentage, on the other hand, is too low. One-half of one per cent is not enough to spend for advertising a store of the size and class of the one in question. With a business of \$200,000 a year, this item would amount to less than \$1,100.00, and you cannot do a great deal of direct-by-mail or newspaper advertising on that, even though the owner says, "we are continual advertisers, occupying a permanent space three times each week in our own newspaper. We also have a mailing list of over 6,000 names and we are still at it, getting new ones and then classifying them into separate departments, as there is no money in writing anyone about an electric washer if they need a combination range."

It costs at least three cents to mail out any sort of advertisement under a one cent stamp, so that the entire appropriation would be exhausted before six such advertisements had been mailed to the list of 6,000 that he mentions, without taking

into consideration any newspaper advertising.

The writer is convinced that without any trouble the "General Expense" item could be reduced at least one per cent which could then be added to the "Advertising" item and make the appropriation for this purpose more nearly what it ought to be.

Incidentally, it is interesting to note that this Michigan hardware merchant is in the fortunate position of not having to pay any taxes.

Hardware Manufacturers! Send Convention Delegates' Names for Badges at Once!

All members sending delegates to the Convention of the American Hardware Manufacturers' Association at Atlantic City, New Jersey, October 17, 18 and 19, are informed that the Association is now ready to make identification badges. These badges, it is said, are hand painted, and for this reason it is incumbent upon the delegates to send their names as soon as possible. The expected large attendance of retailers, jobbers and non-member manufacturers makes the necessity of procuring the delegates' names immediately all the more urgent, in view of the fact that the badges of the former will have to be made at convention headquarters.

Members are requested to send the names of their delegates and ladies, together with firm name and address, to American Hardware Manufacturers' Association, 1819 Broadway, New York City.

W. L. Blosser Succeeds Blosser & Son at Moulton, Iowa.

W. L. Blosser, the senior member of Blosser & Son, dealers in hardware, stoves, tinware, etc., Moulton, Iowa, has taken over the business and will run it henceforth under the name of W. L. Blosser, successor to Blosser & Son.

Mr. Blosser has operated the business for 38 years, and patrons are assured of continued courteous treatment and prompt service.

Bull Rushes Echo Shot Gun's Roar as Fall Duck Hunting Season Gets Into Full Swing.

*Romance! Here's an Excellent Chance to Cash In
On a Live Hunting Season Window Display.*

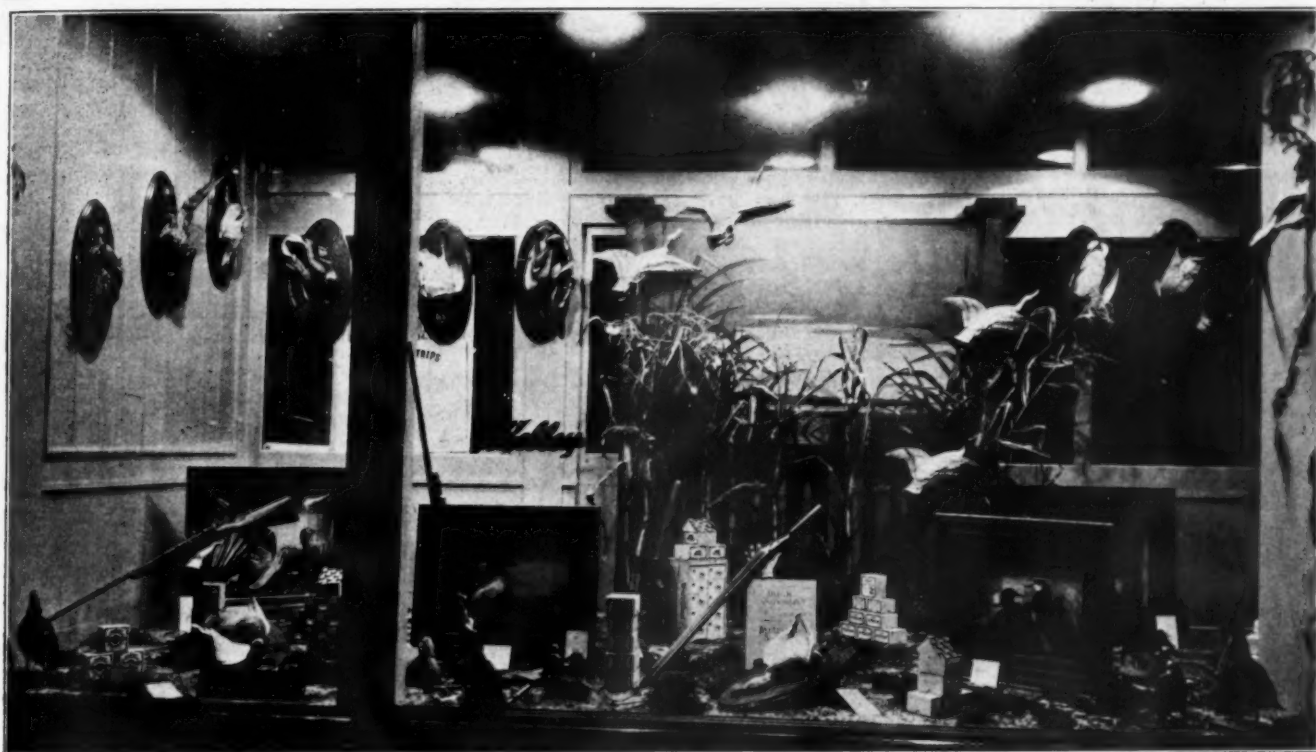
EDWARD WILLIAM BOK, in his recent book, "A Man from Maine," dwells continually upon the Romance in Business. The estimable Mr. Curtis, with whose life the book deals, has indeed found abundant Romance in Business. Mr. Bok, himself a successful editor for thirty years, has found romance in writing about Mr. Curtis' business romance.

his work. So cleverly and ingeniously has he arranged the flying ducks, the rushes and the picture of the pond that it does not require much stretch of the imagination to visualize the entire setting as being real.

The window is not cluttered up with a large number of articles which have no relation to one an-

gun? Or imagine yourself confronted by a wild and ferocious animal, where life or death depended upon the trueness of the sights of your gun. Can you imagine anything more romantic in business than selling a real sportsman a real gun or hunting outfit?

This window display is typical of those that have proved their worth



Speaking of the Romance in Business, M. E. Klasky, in Arranging this Hunting Goods Display for the Kelly-Duluth Company, Duluth, Minnesota, Has Surely Found It.

Other men, too, have found sufficient romance in business to keep them at a high pitch of enthusiasm.

M. E. Klasky, who arranged the accompanying window display for the Kelly-Duluth Company, 118-120 West Superior Street, Duluth, Minnesota, perhaps could have written about his romantic business experience, but he preferred to use a more impressive as well as expressive method of making his appeal to the sportsmen. The illustration proves that he certainly found romance in

other. Just a few guns and boxes of cartridges is all you see. For the remainder your attention is called to the ducks and their hiding places, their characteristic poses when listening for signs of approaching danger. What greater sport could you imagine, after looking at this window, than to be in a flat-bottom boat stealing stealthily through the rushes and marsh ponds of some small lake or slough, your dinner depending upon the accuracy of your aim and the trustworthiness of your

and have been the means of moving a large amount of stock. The illustration is a good one and no one would have any difficulty in making out the objects.

The manager of the store must set an example in salesmanship. It is all right to suggest what the staff should do, but the best way to accomplish this is to do it yourself. They will soon follow. Then encourage them and tell them how well they are getting along.

**American Artisan Window
Display Competition Opens.
Photos Before January 12, 1924.**

AMERICAN ARTISAN AND HARDWARE RECORD once more calls attention to the opening of its annual Window Display Competition. Let us state at the outset that the purpose of this competition is to promote a healthy rivalry among display window designers, believing that in this way the best and latest developments will be brought out for the benefit of all in the trade.

Last year some excellent window displays were produced by the competition, showing that the trade does not lack real talent and ability in designing the window display, that silent, but most efficient of all salesmen. It is hoped that even better results will be produced this year, and we expect to receive at least one photograph from every store into which AMERICAN ARTISAN finds its way.

To enter the competition the following rules are to be observed:

All photographs must be in the office of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois, not later than January 12, 1924, in order to receive attention.

The window display must be photographed, and the display may be made up of goods from any of the following lines: General hardware, machinists' supplies, builders' hardware, automobile supplies, sporting goods, fishing tackle, house furnishings and paints, cutlery, dairy supplies, stoves, ranges, warm air heaters, sheet metal or kindred lines.

The photograph, together with description of how the window display was arranged and the materials used, may be sent by mail or express, charges prepaid.

Each photograph and description must be signed by a fictitious name or device and the same name or device must be placed within a sealed envelope containing the real name and address of the contestant, this sealed envelope to be enclosed with the photograph.

When the contest closes, three judges will be selected who are prominent in hardware circles to choose the winners. The fact that no names appear anywhere on the photograph insures absolute impartiality from the judges in making their decision.

Four prizes, totaling \$100, are to be awarded for the entries adjudged the most meritorious. These are: First prize, \$50; second prize, \$25; third prize, \$15; and fourth prize, \$10.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted in the contest.

Coming Conventions

Automobile Accessories Branch National Hardware Association, Hotel Shelburne, Atlantic City, New Jersey, October 15 to 19.

The National Hardware Association and the American Hardware Manufacturers' Association, Atlantic City, New Jersey, October 16, 17, 18 and 19. F. D. Mitchell, 1819 Broadway, New York, is Secretary and Treasurer of the Manufacturers; T. J. Fernley, Secretary of Jobbers.

The twenty-fourth annual convention of the National Federation of Implement Dealers' Associations will be held at Hotel Sherman, Chicago, October 17, 18 and 19, 1923. H. J. Hodge, Abilene, Kansas, is Secretary.

Mountain States Hardware and Implement Association Convention, City Auditorium, Denver, Colorado, January, 1924. W. W. McAlister, Secretary-Treasurer, Boulder, Colorado.

Western Retail Implement and Hardware Association, Missouri Theater Building, Kansas City, January 15, 16, 17, 1924. H. J. Hodge, Secretary-Treasurer, Abilene, Kansas.

The West Virginia Retail Hardware Association, Convention and Exhibit, Huntington, West Virginia, January 15 to 18, 1924. James B. Carson, Secretary-Treasurer, 1001 Schwind Building, Dayton, Ohio.

Kentucky Hardware and Implement Association, Louisville, January 24-25, 1924. J. M. Stone, Secretary-Treasurer, 202 Republic Building, Louisville.

Indiana Retail Hardware Association, Inc., Convention and Exhibition, Cadle Tabernacle, January 29, 30, 31, February 1, 1924. G. F. Sheely, Secretary, Argos.

Illinois Retail Hardware Association, Hotel Sherman, Chicago, Illinois, February, 1924. Leon D. Nish, Secretary-Treasurer, Elgin, Illinois.

Nebraska Retail Hardware Association, Lincoln, Nebraska, February 5 to 8, 1924. George H. Dietz, Lincoln, Nebraska, Secretary-Treasurer.

Wisconsin Retail Hardware Association Convention and Exhibition, Milwaukee Auditorium, February 6, 7, 8, 1924. George W. Kornely, Manager of Exhibits, 1476 Green Bay Avenue, Milwaukee.

waukee. P. J. Jacobs, Secretary-Treasurer, Stevens Point.

Michigan Retail Hardware Convention and Exhibition, Grand Rapids, February 12, 13, 14, 1924. Karl S. Judson, Exhibit Manager, 248 Morris Avenue, Grand Rapids. A. J. Scott, Secretary, Marine City, Michigan.

Iowa Retail Hardware Association, Des Moines, Iowa, February 12, 13, 14 and 15, 1924. A. R. Sale, Secretary-Treasurer, Mason City, Iowa.

The Pennsylvania and Atlantic Seaboard Hardware Association, Incorporated, convention and exhibition at the Philadelphia Commercial Museum, Philadelphia, Pennsylvania, February 12, 13, 14 and 15, 1924. Sharon E. Jones, Secretary-Treasurer, Wesley Building, Philadelphia.

Ohio Hardware Association, Convention and Exhibition, Cincinnati, Ohio, February 19, 20, 21 and 22, 1924. James B. Carson, Secretary, 1001 Schwind Building, Dayton, Ohio.

New York Retail Hardware Association Convention and Exhibition, February 19, 20, 21, 22, 1924. Headquarters, McAlpin Hotel, and Exhibition at Seventy-First Regiment Armory. John B. Foley, Secretary, 412-413 City Bank Building, Syracuse.

The Missouri Retail Hardware Association, Convention and Exhibition, Marquette Hotel, St. Louis, Missouri, February 26, 27 and 28, 1924. F. X. Becherer, Secretary, 5106 North Broadway, St. Louis, Missouri.

Retail Hardware Doings

Illinois.

The Chillicothe Hardware Company of Chillicothe has increased its capital stock from \$15,000 to \$30,000.

Iowa.

Benton Hornady and his son Hugh have bought the hardware store in Milo.

A. J. Peters and his son have sold their hardware store at Edgewood to Irve Chapman of Strawberry Point.

Minnesota.

William Auslander has opened a hardware store in Swanville.

The Hall hardware store at Middle River was completely destroyed by fire.

Andrew Simi who has been engaged in the hardware business in Hibbing for the past eleven years, has sold his business to J. M. Miettunen of Brookston.

North Dakota.

Weld and Weld have sold their hardware store at Cleveland to John J. O'Donnell.

Ohio.

Leo Boskind has opened a new hardware store on South Front and Ludlow Streets, Hamilton.

South Dakota.

A deal has been completed whereby Herman Rock becomes the owner of the hardware stock of L. J. Fargo at Stratford.

The man who builds a business because of what that business means to him may succeed, but the man who builds a business because of what that business means to the world cannot fail.

The More You Sell the More You Lose If You Fail to Watch Your Turnover.

*Christianson, Stevens Point, Wisconsin, Maintains That
Many Hardware Merchants Lose Money on Certain Lines
Because They Carry Too Large Stocks for Their Business.*

IN the August issue of the "Members' Exchange" of the Wisconsin Retail Hardware Association there appears a well thought out article entitled "The More You Sell, the More You Lose," from which we quote the following:

In these days of narrow margins and wide expenses, when the average cost of doing business exceeds the spread between merchandise invoice cost and the selling price on some items sold, then we frequently hear the lament of the uninformed reciting the list of non-profit lines which duty to the community compels them to carry in stock. They say that figures do not lie and "my cost of doing business is 24 per cent and the margin I make is only 20 per cent so I must be losing 4 per cent" and "The more I sell the more I lose."

If this held true in every instance, then the wrecks of businesses that have stranded upon shoals where expenses exceeded margins, would be thickly strewn where only a few appear today.

"But how can it be otherwise," says the skeptic, seasoned as he is by the experience of a merchandising era of years ago which he is actually living at present. How can this miracle be performed he inquires for such it must be. If 20 is to become greater than 24, surely it must require more than the skill of mere man to so convert it.

All of this seems plausible and many are the responses from the "Amen Corner." Shall we then dare to set up our own humble opinion in order to set right what appears to be wrong? Shall we brave the criticism of gray hairs and bent shoulders of those grown old in the service, by saying that goods at a 20 per cent margin can be made to pay a profit, when the expense ratio exceeds this figure 4 per cent.

For the good of the cause we will launch an explanation and will go into the fray supported on either flank by an array of facts and figures, justifying the contentions we make. Again we are going to invoke the saying, "Figures won't lie," hoping that the reader does not have in mind the distortion of this old saw, which says "but liars will figure."

So, if figures do not lie, then the following deductions hold true in the retail hardware store. Twenty-four per cent cost of doing business is perhaps extreme (it ought to be less), but for the purposes of our illustration we will use that figure. How can this expense figure be reduced below this 24 per cent on some lines in your store, so that goods carrying only 20 per cent can be sold at a profit?

Here we call on turnover for help, and in our analysis we will "begin at the front" and proceed in an orderly manner. In the example we will use, we will deal with stoves, because it is an item of low percentage of profit. Your first consideration is the *average number of stoves carried on your floor the year around*. Stoves take up room, but *five* take up less room than *twenty*, and if you limit the stock to five, you will have room for other merchandise in the place which would be occupied by the fifteen. Again, your insurance is less on five than on twenty. Then there are your taxes, your depreciation on stock, your supplies for your store, your advertising, heat, light, telephone, donations and repairs and expenses of a like nature which will remain the same through the year, no matter what number of stoves you sell, just as long as your stock on hand does not exceed the number, *five* taken for our illustration.

What percentage of your total

expenses are these expenses that are affected by the amount of stock you carry, and not by the amount of your sales? Basing your cost of doing business on 24 per cent, these will constitute about 10 or 11 per cent out of the 24.

Now what happens if your stove sales are increased without a corresponding increase in your stock. You have determined that *five* stoves are a sufficient stock, and if you now sell *ten* stoves a year it means that you must buy another five after the first five are sold. Do your sales of the second five cost you any less? Not in selling effort, for I am presuming to say it will take twice as much time of a clerk or the proprietor to sell ten as it will to sell five. Yes, even let it be presumed that the same man sells all of the stoves. Then there can be no argument as to sales ability. Oh, there are variations, of course, in the length of time it takes to sell, even the same article on the same day, by the same sales person, because all customers do not buy with equal readiness. But such slight differences are not necessary for the effect of this illustration.

Again, you will place twice as great an amount on your books and you stand to incur greater losses on bad accounts in proportion to number sold. Then the expenses of delivery and personal service on ten stoves will average twice as much as in the sale of five. So we find selling expenses, delivery and depreciation rising in regular order as the sales increase. These expenses which increase in this ratio, represent 11 to 12 per cent of the total average expense of doing business, which we have placed at 20 per cent.

Then our line of reasoning leads us on as follows:

If five stoves represent your average stock, and also constitute your entire stove sales for the year, and the proceeds of such sales have entered into your figures in estimating your cost of doing business as 24 per cent, then when an additional sale of *five* or *ten* or *fifteen* has been made, only 13 per cent of the 24 per cent average expense ratio keeps

piling up with the sales. This is the expense of selling and delivering. So we find the expenses of selling twenty stoves on a five stove stock, 24 per cent on the first five, 13 per cent on the second, and on the third and the fourth or a total, of 63 per cent. This makes an average of $15\frac{3}{4}$ per cent on each time the stove stock is moved. Am I right?

So, taking merchandise at a 20 per cent margin, when turned over four times can be considered as making the difference between 20 per cent and $15\frac{3}{4}$ per cent, or $4\frac{1}{4}$ per cent net. And if this is true, then the *more we sell*, the more we make, even at a *net* as small as $4\frac{3}{4}$ per cent. A larger turnover when secured will result in a still greater reduction of this $15\frac{3}{4}$ per cent expense secured by means of turning the stock four times in place of once.

Therefore, what are often *non-profit* lines can be made *profit* lines, and the formula is, *greater turnover*.

Gas Range Sale Moves Stock and Brings in the Cash.

Old but good. This applies to the special sale to move left-over stock or to stimulate business during the dull season.

The accompanying reprint is an effort to move left-over stock, as it refers to the fact that there is only a limited number of the stoves for sale at the specially low price. There are people who know all about the article advertised and have the desire to possess it, but are in that unfortunate but large class who must watch their opportunity and purchase when the price is low. A special sale is a windfall for this class of persons and they grasp the opportunity without the slightest hesitation. They know either by previous experience or by instinct that these specials will come sooner or later and that is their opportunity. These people know that because an article happens to be one of an odd lot, its quality is still the same and, therefore, they are really getting a bargain when the price is reduced.

The Nicholas Hardware Company has made up a very clever ad announcing a special stove sale. The ad is well illustrated and to the point and would be certain to produce excellent results. It is real selling effort and makes it obligatory on the

successful management beautifully, and prospers in proportion to the friendly service rendered. At one end of this man's store, he has built an office on a mezzanine floor overlooking every section of the store.

Sitting at his desk in this mezza-

A Great Sale of Gas Ranges

Get this Wonderful Bargain Detroit Jewel Cabinet Gas Range

Special Low Price ← New 1923 Model as illustrated → Special Low Price

\$39⁹⁵

=

Only
a
Limited
Number
at
this
Low
Price
=



\$39⁹⁵
not connected
connected complete **\$43.95**

\$39⁹⁵

=

Big
Special
for
Saturday
Only

Positively no orders taken except on Saturday for this Range

An Unusual Value



All White Detroit Jewel Gas Range Finished in Snow White "Lustr" Porcelain and Nickel One giant burner, three standard burners, one simmering burner, Loop oven burner, Enamel broiler pan, Measurements 41 inches over all Baking oven, 16x18. Price at... **\$79.50** Delivered and connected free

See this Remarkable Detroit Jewel Range

A new special 1923 Model Gas Range, which we are selling at such low price that every home can possess this high-grade Range. Equipped with porcelain splashers, baked ename on all outside parts, which protect the range from rust. Cast iron main front and door frames. Cast iron cooking top and side shelf. Patent double flue oven, which forces even heat in all parts of the oven. It is a perfect baker and saves gas. Oven tall lined with blue steel on all sides, which keeps the heat in the oven. Will fit into a space 43 1/2 inches wide. Oven 18 inches deep. Will hold a large roaster with room to spare. White porcelain tray and door panels. An excellent stove at a special price of... **\$39.95**

Sold on small monthly payments if desired

Most Attractive and Complete Display of Gas Ranges and Refrigerators in Cook County

Extra Special



Reliable 4-burner Cabinet Gas Range, semi-white porcelain, like cut. Baking oven 18x18x14 Broiling oven 15x18x10 Special... **\$67.50**

Connected free. Sold on small payments if desired.

NICHOLAS HARDWARE CO.

123 Marion Street, Phone 9600 TWO STORES 825 S. Oak Park Ave., Phone 9700

We have not raised prices, and we don't expect to

Unusual Gas Range Sale Advertisement Which Moved Stock of Ranges in Short Order.

part of the customer to act quickly, while at the same time doing a service. The main points are so well stated that it takes only a moment to grasp them.

**Prompt, Friendly Service
Helps to Cement Friendly
Feeling of Customer.**

A western hardware dealer has solved one of the great problems of

nine, he is in constant touch with everything that goes on below.

If a customer is observed standing about like a neglected wall flower, he touches a buzzer connected with the nearest unoccupied clerk and gets him on the job immediately.

Prompt service is his big idea of satisfactory service—folks who have to wait may change their minds and leave.

Confidence in Future Markets Revealed; Anthracite Coal Strike Settled Amicably; Outlook Is for Firm or Rising Prices.

Non-Ferrous Metal Prices Strong—Copper Benefited from European News—Buying Movement in Lead Beyond Expectations.

IN the face of the Japanese disaster, the anthracite coal strike in the East, the visual disappearance of the value of the German Mark, the Italian-Greek hostilities and other more minor disturbing factors, no flutter of financial apprehension has been experienced. Prices, if moving at all, have strengthened, as is to be expected under the circumstances.

As is always the case, the first estimates of the losses in Japan have been somewhat modified; the strike has been averted; the Italian and Greek situation has been alleviated, although not entirely settled.

In the non-ferrous metal markets prices of most metals are firm.

Copper.

The copper market advanced $\frac{1}{8}$ cent September 11 and the range is now $13\frac{3}{8}$ to 14 cents for electrolytic delivered. This was not due to any material increase in activity, but to the fact that producers realized that consumers' stocks were about exhausted and that a buying movement could not be delayed much longer. So they pushed prices up and one producer stated that he had refused two 1,000,000 pound orders which were ordered at $13\frac{3}{8}$ cents, as he was not willing to sell under 14 cents at this time.

The most recent estimate of production running behind consumption for the month of August, in the place of another heavy increase in stocks as previously indicated, also had a bullish effect on the market.

It is reported that France and Germany have been moderate buyers here during the past day or two. Another bullish factor is the indications that Germany will soon end its passive resistance to the Ruhr invasion and thereby permit a resumption of normal business.

Tin.

The tin market is quiet.

Another decline in the London tin market left the price level undisturbed here. Ever since last Friday, September 7, Straits in the domestic market have been fairly firm at 42 cents a pound for practically all deliveries and positions. At times there have been transactions at maybe a quarter of a cent higher or lower than this quotation but in the main this level has ruled at the close of each day's trading.

The quotations are Straits, 42.25 cents; Chinese and 99 per cent, 41.50 cents; banka and extra refined $41.87\frac{1}{2}$ cents, all for prompt delivery. For October and November delivery Straits, 42 cents; Chinese and 99 per cent, $41.37\frac{1}{2}$ cents.

Lead.

Demand from consumers continues very good for prompt and September shipment, but there is no change in the quoted prices. The largest holders of prompt metal are asking 6.75 cents East St. Louis basis, and declining bids of 6.70 cents for good-sized tonnages.

Quotation for prompt St. Louis are 6.70 to 6.75 cents; September, 6.70 to 6.75 cents; October, 6.70 to 6.75 cents.

Zinc.

Though lacking active foreign support, the zinc market remained steady, more domestic consuming demand having appeared than has been seen for some weeks, and 6.55 cents East St. Louis basis has been paid for good tonnages of prime western for September shipment. The buying at present, however, is mainly for prompt or early shipment—futures being comparatively neglected, and quoted nominally on a

scale upward of about 50 cents per ton advance per month.

No new developments are reported in the labor situation. The plants at Fort Smith, Arkansas, and Quinton, Oklahoma, are still closed down, the men not having the reduced rate of wages effected at other points.

Quotations are East St. Louis, prompt, $6.52\frac{1}{2}$ to $6.57\frac{1}{2}$ cents; September, same; October, 6.55 to 6.60 cents; November, $6.57\frac{1}{2}$ to $6.62\frac{1}{2}$ cents; December, 6.60 to 6.65 cents.

Solder.

Chicago warehouse prices on solder are as follows: Warranted 50-50, \$27.50; Commercial, 45-45, \$26.55, and Plumbers', \$25.50, all per 100 pounds.

Bolts and Nuts.

Producers of bolts and nuts at Chicago are offering contracts for fourth quarter delivery on the basis of the present schedule which represents the price paid for most of the third quarter business. Most producers have comfortable backlogs and there is some current buying. Buying for fourth quarter delivery has not yet started but it probably will be done within the next two or three weeks.

Tin Plate.

Tin plate manufacturers rapidly are filling up their books for the remainder of the year, now that their books are opened for the last quarter at the unchanged price of \$5.50 per base box, 100 pounds, Pittsburgh. In some cases, bookings amount practically to allocations.

More attention now is being paid to buyers of tin plate for cans other than food containers, upon which producers have been concentrating so long.

Oil companies, decorated tin manufacturers and others have business to place and gradually are finding places for their orders.

One large independent producer here has five or six weeks' bookings in hand and reports prospects unusually bright for the remainder of the year; it is operating 95 per cent. The general average of all the industry is around 90 per cent.

Sheets.

The leading interest's carryover in sheets is large and applies alike to blue annealed, black, galvanized and full-finished automobile sheets, quoted at 3.00 cents, 3.85 cents, 5.00 cents and 5.35 cents, base Pittsburgh respectively. While a fair amount of interest is noted by independents in blue annealed, galvanized and full finished, they still lack orders for common black sheets and on this grade price weakness continues.

A few quotations on the basis of 3.75 cents, base Pittsburgh for black still are current. Sheet manufacturers are operating on an average of 80 per cent of capacity and expect to continue in the neighborhood of that figure, although one interest in Youngstown territory only is operating 50 per cent of its sheet mills.

Skilled hot-mill men are scarce, the leading interests continuing to report difficulty in obtaining sufficient workmen.

Some buyers have tried to break the market, but so far have not been successful in this territory, the market remaining strong at 5.35 cents. One of the orders referred to came from Detroit. According to the seller, experience has shown that if any weakness prevailed this business would have gone at a lower figure. So far no inquiries have come from Japan, although some middle interests in New York are seeking to anticipate them and are obtaining some prices.

Old Metals.

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$18.00 to \$18.50; old iron axles, \$26.00 to \$26.50; steel springs, \$19.50 to \$20.00; No.

1 wrought iron, \$15.50 to \$16.00; No. 1 cast, \$19.50 to \$20.00, all per net tons. Prices for non-ferrous metals are quoted as follows, per

pounds: Light copper, 9¼ cents; light brass, 5 cents; lead, 4¼ cents; zinc, 3½ cents; and cast aluminum, 15 cents.

Large Pig Iron Buyers Seek Fourth Quarter Tonnage; Sales Comprise 100 to 500-Ton Lots at Pittsburgh.

Market More Active—Better Inquiry Developed at Chicago—No. 2 Foundry \$24 Base at Birmingham.

INQUIRIES for foundry iron in the different silicons are more plentiful and most of the sales reported this week have been of that grade at Pittsburgh. Sanitary ware and radiator companies have been closing for tonnage and regular jobbing foundries are buying some for prompt delivery and some for delivery over the entire fourth quarter.

Sales usually comprise 100 to 500 tons, although one 1,500-ton lot for a nearby melter is reported by one seller who disposed of a total of 4,000 to 5,000 tons within the week all on the basis of \$25 valley for the No. 2 grade (1.75 to 2.25 silicon).

The inquiry calls for equal tonnages of No. 1, No. 2 and No. 3 iron, and in addition a little bessemer as well as some high silicon iron is wanted.

The majority of sales recorded here recently have been at the \$25, valley, base figure, although one small interest and one valley maker continue to offer iron at \$24.50 valley base, for No. 2. No inquiries are out for malleable which is quoted at \$24.50 to \$26, valley, and gray forge users likewise apparently are satisfied for the time being. Steel foundries are showing considerable interest in low-phosphorus iron, buying 50 to 500 tons at a time at \$30 to \$31.50 valley.

Better inquiry and buying of pig iron has developed at Chicago, but most of it is for delivery in 30 to 60 days.

Fourth quarter buying is forecast by a feeling out of the market by many large users. Considerable small lot buying for immediate shipment is noted. There is less resist-

ance on the part of buyers as needs for the remainder of the year become evident. Several are buying further ahead as it is estimated their tonnages are not sufficient to fill out the year. Foundries generally are not increasing their melt. Sales include 1,000 tons of malleable for the fourth quarter to an Indiana melter; 1,000 tons for the same delivery to a Chicago user and 2,000 tons of malleable to a Michigan melter for the fourth.

The southern pig iron market is a little improved this week. Recent inquiries have resulted in some business and indications point to a greater melt through the balance of the year.

One of the larger and more active furnace interests states iron sales are beginning to aggregate 1,000 tons and more per day. Some new sales in small lots have been made for shipment north of the Ohio river and into Baltimore territory. One small furnace interest is out of the market for this year.

Another furnace is selling only to regular customers. Quotations are on a \$24 base for No. 2 foundry. It is denied that sales have been made at \$23. Some off-grade iron is said to have been disposed of by one company recently under \$23 but even a large tonnage has not brought about a concession from the \$24 price, so far as can be ascertained.

Firms do not grow big and then use advertising. They begin to use advertising and then as a result grow great. This may be trite, but it's an application in every real business you can think of.

REAL BARGAINS

As Long As Our Stock Permits We Will Sell These Stakes
and Mandrels at These Unusual Prices

FIRST COME—FIRST SERVED—SEND YOUR ORDER QUICKLY

DOUBLE SEAMING STAKES



Wrought Iron with polished steel face; weight 37 lbs.; large end 17 inches, small end 12 inches; diameter of each end 3x2 1/4 inches.

No. G30—Net Each, \$3.00

MANDRELS



Cast iron; polished faces; have both round and flat surfaces; width of flat part 2 3/8 inches; width of oval part tapers 2-5/16 to 2 3/8 inches; length over all 43 3/4 inches; length oval part 26 inches; shipping weight about 47 lbs.

No. G36—Net Each, \$3.00

SOLID MANDRELS



Cast iron; black faces; length of standard 34 inches; for pipe small as 3 inch; weight 50 lbs.

No. G63—Net Each, \$3.00

YOU CAN'T AFFORD NOT TO BUY AT THESE PRICES

Subject to Prior Sale—F. O. B. Indianapolis

VAN CAMP HARDWARE AND IRON CO.
INDIANAPOLIS

Terne Plate Specialists

*Since the beginning
of the industry in
this country.*

Write for samples.



Our Brands

*shown here ranging
from 40 to 8 pound
have proven their
unusual lasting qual-
ities by years of
actual service.*

A LARGE stock of all brands always carried in stock for immediate shipment.
Also manufacturers of "Osborn Quality" Gutter and Conductor, 28 gauge being our standard

Let us quote on your requirements.

THE J. M. & L. A. OSBORN CO., CLEVELAND

Sheet Metal Workers' and Furnacemen's Supplies

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

FIG IRON.

Chicago Foundry...	27 00
Southern Fdy. No. 2	29 51 to 30 01
Lake Sup. Char-coal	32 04
Malleable	27 00

FIRST QUALITY BRIGHT TIN PLATES.

	Per Box
IC 14x20 112 sheets	\$25 60
IX 14x20 " "	24 65
IXX 14x20 " "	17 87
IXXX 14x20 " "	18 12
IC 14x20 " "	18 65
IX 20x28 112 sheets	27 50
IXX 20x28 " "	29 85
IXXX 20x28 " "	16 15
IC 20x28 " "	17 30
IXXX 20x28 " "	18 25

TERNE PLATES.

	Per Box
IC 20x28, 40-lb. 112 sheets	\$25 60
IX 20x28, 40-lb. " "	24 60
IX 20x28, 30-lb. " "	21 80
IX 20x28, 20-lb. " "	24 70
IX 20x28, 15-lb. " "	20 80
IX 20x28, 12-lb. " "	23 70
IC 20x28, 30-lb. " "	18 30
IV 20x28, 20-lb. " "	21 15
IC 20x28, 15-lb. " "	17 05
IC 20x28, 12-lb. " "	15 75
IC 20x28, 8-lb. " "	14 05

COKE PLATES.

Cokes, 80 lbs. base, 20x28.	\$14 05
Cokes, 90 lbs. base, 20x28.	14 20
Cokes, 100 lbs. base, 20x28.	14 65
Cokes, 107 lbs. base, IC 20x28.	15 10
Cokes, 135 lbs. base, IX 20x28.	17 15
Cokes, 155 lbs. base, 56 sheets.	9 30
Cokes, 175 lbs. base, 56 sheets.	10 10
Cokes, 195 lbs. base, 56 sheets.	10 95

BLUE ANNEALED SHEETS.

Base	per 100 lbs. \$4 00
------	---------------------

ONE PASS COLD ROLLED BLACK.

No. 18-20	per 100 lbs. \$5 00
No. 22-24	per 100 lbs. 5 05
No. 26	per 100 lbs. 5 10
No. 27	per 100 lbs. 5 15
No. 28	per 100 lbs. 5 20
No. 29	per 100 lbs. 5 30

GALVANIZED.

No. 18	per 100 lbs. \$5 80
No. 18-20	per 100 lbs. 5 75
No. 22-24	per 100 lbs. 5 90
No. 26	per 100 lbs. 6 05
No. 27	per 100 lbs. 6 20
No. 28	per 100 lbs. 6 35
No. 30	per 100 lbs. 6 35

BAR SOLDER.

Warranted.	
50-50	per 100 lbs. \$27 50
Commercial.	
45-55	per 100 lbs. 26 55
Plumbers	per 100 lbs. 25 50

ZINC.

In Slabs	6 75
----------	------

SHEET ZINC.

Cask lots, stock, 100 lbs.	11 00
Less than cask lots, 100 lbs.	11 50

BRASS.

Sheets, Chicago base	21 1/2 c
Mill Base	18 1/2 c
Tubing, brazed, base	26 1/2 c
Wire, base	19 c

COPPER.

Sheets, Chicago, base	22 c
Mill Base	21 1/4 c
Tubing, seamless, base	24 c
Wire, No. 9 & 10 B. & S. Ga.	21 1/4 c
Wire, No. 11 B. & S. Ga.	21 1/4 c

LEAD.

American Pig	6 75
Bar	7 75

Sheet.	
Full Coils	per 100 lbs. 10 25
Cut coils	per 100 lbs. 11 25

TIN.

Pig Tin	per 100 lbs. 41 87 1/2
Bar Tin	per 100 lbs. 42 87 1/2

HARDWARE, SHEET METAL SUPPLIES, WARM AIR HEATER FITTINGS AND ACCESSORIES.

ADZES.

Coopers' Barton's	Net
White's	Net

AMMUNITION.

Shells, Loaded, Peters.	
Loaded with Black Powder 18%	
Loaded with Smokeless Powder	18%
Winchester.	
Smokeless Repeater	20 & 4%
Grade	20 & 4%
Smokeless Leader	20 & 4%
Grade	20 & 4%
Black Powder	20 & 4%
U. M. C.	
Nitro Club	20 & 4%
Arrow	20 & 4%
New Club	20 & 4%
Gun Wads—per 1000.	
Winchester 7-8 gauge 10 & 7 1/2%	
" 9-10 gauge 10 & 7 1/2%	
" 11-12 gauge 10 & 7 1/2%	

ASBESTOS.

Paper up to 1/16	6c per lb.
Rollboard	6 1/4 c per lb.
Millboard 3/32 to 1/4	6c per lb.
Corrugated Paper (250 sq. ft. to roll)	\$5.00 per roll

AUGERS.

Boring Machine	40 & 10%
Carpenter's Nut	50%
Hollow.	
Stearns, No. 4, doz.	\$11 50
Post Hole.	
Iwan's Post Hole and Well	25%
Vaughan's, 4 to 9 in.	\$15 60

AXES.

First Quality, Single Bitted (unhanded, 3 to 4 lb., per doz.	\$14 00
Good Quality, Single Bitted, same weight, per doz.	13 00

BAR, CROW.

Steel, 4 ft., 10 lb.	\$ 30
Steel, 5 ft., 18 lb.	1 40
Pinch bars, 5 1/2 ft., 24 lb.	1 60

BAR, WRECKING.

V. & B. No. 12	\$0 34
V. & B. No. 24	0 43
V. & B. No. 32	0 57
V. & B. No. 38	0 45
V. & B. No. 350	0 63

BITS.

All Vaughan and Bushnell.	
Screw Driver, No. 30, each	\$ 27
Screw Driver, No. 1, each	16
Reamer, No. 80, each	41
Reamer, No. 100, each	41
Countersink, No. 13, each	20
Countersink, Nos. 14-15, each	27

BLADES, SAW.

Wood.	
Atkins 30-in.	
Nos.	40 26
	\$8 90 \$9 45 \$5 40

BLOCKS.

Wooden	45%
Patent	45%

BLOW TORCHES (See Firepots).

BOARDS.

Stove.	Per Doz.
Crystal, 33"	23 90
Wash.	
No. 750, Banner Globe (single)	per doz. \$5 25
No. 652, Banner Globe (single)	per doz. 6 75
No. 501, Brass King	per doz. 8 25
No. 860, Single—Plain	per doz. 6 25
Pump	

BOLTS.

Carriage, Machine, etc.	
Carriage, cut thread, 1/2 x 3 and sizes smaller and shorter	45-55%
Carriage sizes, larger and smaller and shorter	40-55%
Machine, 1/2 x 4 and sizes smaller and shorter	50%
Machine, sizes larger and longer than 1/2 x 4	40-10%
Stove	70-85%

BRACES, RATCHET.

V. & B. No. 444 3 in.	\$4 54
V. & B. No. 223 3 in.	3 39
V. & B. No. 111 3 in.	3 55
V. & B. No. 11 3 in.	3 02

BRUSHES.

Hot Air Pipe Cleaning.	
Bristle, with handle, each	\$0 85
Flue Cleaning.	
Steel Only, each	\$1 25

BURRS.

Copper Burrs only	40%
-------------------	-----

BUTTS.

Steel, antique copper or dull brass finish—case lots—3 1/2 x 3 1/4—per dozen pairs	\$3 48
4 x 4	4 74

Heavy Bevel steel inside sets, case lots—	
per dozen sets	\$ 00
Steel bit keyed front door sets, each	2 00
Wrought brass bit keyed front door sets, each	4 00
Cylinder front door sets, each	8 50

CEMENT, FURNACE.

American Seal, 5 lb. cans, net	\$ 45
" 10 lb. cans, "	90
" 25 lb. cans, "	3 00
Asbestos, 5 lb. cans	45
Pecora	per 100 lbs. 7 51

CHAINS.

Sher. Steel Safety Chain.	
500-ft. coil, per ft.	.02
100 to 500 ft., per ft.	.02 1/2
Less than 100 ft., per ft.	.02
Iron Jack Chain.	
Box (12 yds.)	.45

CHIMNEY TOPS.

Iwan's Complete Rev. & Vent.	30%
Iwan's Iron Mountain only	35%
Standard	30 to 40%

CHISELS.

Cold.	
V. & B. No. 25, 1/4 in., each	\$0 26
V. & B. No. 25, 1/2 in., each	41
Diamond Point.	
V. & B. No. 55, 1/4 in.	0 31
V. & B. No. 55, 1/2 in.	0 48
Firmer Bevelled	
Round Nose.	
V. & B. No. 55, 1/4 in.	0 29
V. & B. No. 55, 1/2 in.	0 40
Socket Firmer.	
Cape.	
V. & B. No. 50, 1/4 in.	0 31
V. & B. No. 50, 1/2 in.	0 57

CHUCKS, DRILL.

Goodell's, for Goodell's Screw Drivers	List less 35-40%
Yankee, for Yankee Screw Drivers	\$6 00

CLAMPS.

Adjustable.	
No. 100, Door (Stearns)	doz. \$22 00
Carpenters'.	
Steel Bar—List price plus 20%	
Hose.	
Sherman's brass, 1/4-inch	per doz. \$0 48
Double, brass, 1/4-inch, per doz.	1 20

CLINKER TONGS.

Front Rank, each	\$1 75
Per doz.	1 85

CLIPS.

Damper.	
Acme, with tail pieces, per doz.	\$1 31
Non Rivet tail pieces, per doz.	21

COPPERS—Soldering.

Pointed Roofing.	
3 lb. and heavier	per lb. 40c
2 1/2 lb.	45c
2 lb.	45c
1 1/2 lb.	45c
1 lb.	45c

CORD.

No. 7 Std. per doz. banks	\$10 35
No. 8 " "	12 00

CORNICE BRAKES.

Chicago Steel Bending.	
Nos. 1 to 6 B.	10%

COUPLINGS, HOSE.

Brass	per doz. \$2 21
-------	-----------------

CUT-OFFS.

Kuehn's Korrekt Kutoffs:	
Galv., plain, round or cor. rd.	
Standard gauge	40%
26 gauge	10%

DAMPERS.

"Yankee" Hot Air.	
7 inch, each 20c, doz.	\$1 75
8 " " 25c, " "	2 40
9 " " 30c, " "	2 75
10 " " 32c, " "	3 00

Smoke Pipe.	
7 inch, each	\$ 35
8 " " "	40
9 " " "	50
10 " " "	60
12 " " "	90

Reversible Check.	
8 inch, each	\$1 50
9 " " "	1 70

DIGGERS.

Post Hole.	
Iwan's Split Handle (Eureka)	
4-ft. Handle	per doz. \$14 00
7-ft. Handle	per doz. 36 00
Iwan's Hercules pattern, per doz.	14 90

DRILLS.

V. & B. Star, 12-inch Length.	
1/4, 5/16 and 3/8, each	35
1/2, each	38
1, each	54
1 1/2, each	81
V. & B. Star, 18-inch Length.	
1/4, each	33
5/16 and 3/8, each	33
1/2, each	49
1, each	69
1 1/2, each	1 05

EAVES TROUGH.

Milcor	
Galv. Crimped, crated	70-85%

ELBOWS—Conductor Pipe.

Milcor	
Galv., plain or corrugated, round flat.	
Crimp. Std. gauge	60%
26 Gauge Std. gauge	40%
24 Gauge Std. gauge	10%

Square Corrugated.	
Milcor	
Standard gauge	45%
26 gauge	30%

Partice Elbows.

Standard Gauge Conductor Pipe, plain or corrugated.	
Not nested	70 & 5%
Nested solid	70 & 5%

ELBOWS—Stove Pipe.

1-piece Corrugated. Uniform.	Doz.
5-inch	\$1 45
6-inch	1 60
7-inch	2 10
Special Corrugated.	Doz.
6-inch	\$1 45
7-inch	1 75

DURABLE

are

Inland Copper Alloy Sheets

BLACK

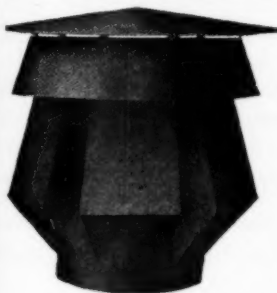
GALVANIZED

BLUE ANNEALED

INLAND STEEL COMPANY

38 South Dearborn St., Chicago

Works: Indiana Harbor, Ind. Branch Offices
Chicago Heights, Ill. Milwaukee St. Louis
St. Paul



Have you seen
THE BIG VENT
WITH THE GREAT PULL?

ÆOLUS VENTILATOR

RIGID — STRONG — DURABLE

Made in all sizes of all metals. They are reasonably priced and we make quick shipments.

ÆOLUS DICKINSON CO.

Vent Makers Since 1888

3332-3352 South Artesian Ave. CHICAGO, ILLINOIS
Telephone: Lafayette 1862-1863

AREX

MORE PROFIT—LESS WORK

AREX Ventilators are built in tremendous quantities and are therefore low in price in spite of excellent design and high grade construction. Correct design gives them three times the capacity of ordinary ventilators.

Extensive advertising build large sales—a better profit for you.

AREX COMPANY

J. C. Kernchen, Pres.

1581 Conway Building

Chicago

THE ORIGINAL SIPHONAGE VENTILATOR



When You Are Called Upon—

to make repairs that take more time than you conscientiously can charge for, do you look for the quickest, most economical and practical form of doing the job?

For soldering jobs such as pictured and described here—Kester Acid-Core Wire Solder hits the mark, because it saves time, labor and material.

Tiny pockets inside the hollow wire form of this virgin tin and lead solder supply a scientific flux, only where you need it, just before the solder melts. Then comes the solder, thus forming a neat, substantial bond, by a quick, economical method.



Sold by live dealers everywhere in one pound coils, in cartons, and on one, five and ten pound spools

Manufacturers

CHICAGO SOLDER COMPANY

4241 Wrightwood Avenue, Chicago

Direct Factory Representatives:

THE FAUCETTE HUSTON CO.
Chattanooga, Tenn.

LOUIS J. ZIESEL CO.
216 Market St.
San Francisco, Cal.

RICHARD F. ELY
66 W. Broadway
New York City

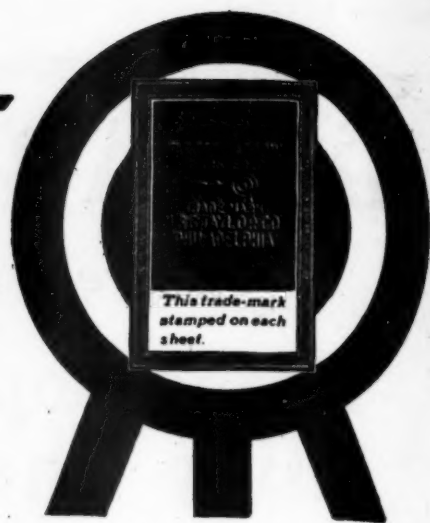
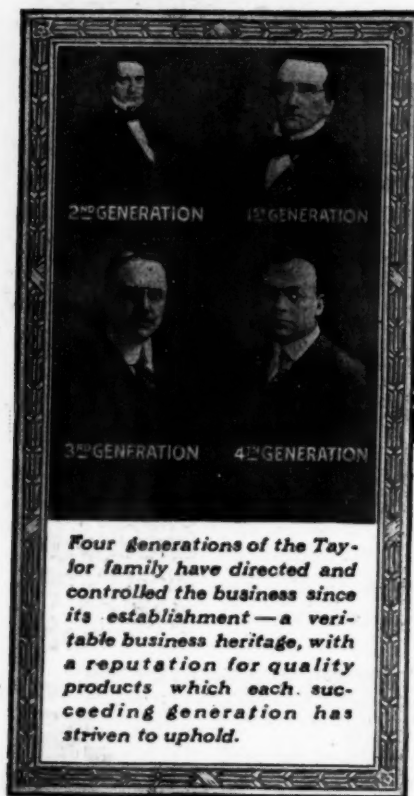
KESTER

Acid Core WIRE SOLDER



Requires Only Heat

Back of—



TARGET

THE quality of a product is the sum total of the ingredients, the plant, the men and the management. If any one of these be under par the product is bound to suffer.

The ingredients that go to make up Taylor's Target-and-Arrow Roofing Tin are the best that the world produces—the best that money can buy.

The plant is completely and efficiently equipped to manufacture roofing tin from pig iron to finished tin plate. Here pig iron with a small admixture of copper is placed in the Siemens-Martin open hearth furnaces, cast and rolled into bars, rolled, annealed, and rerolled into the finest copper-bearing open hearth sheets. Here the sheets are coated by an old Welsh hand dipping process, in which each sheet is repeatedly dipped and soaked in pots of molten metal and boiling palm oil, consuming 35 minutes to coat each sheet of Target-and-Arrow, whereas a sheet of ordinary roofing tin is coated in 20 seconds.

The men are workers of unusually long experience, most of them started to work in the Taylor mills when they were mere boys, and

N. & G. TAYLOR CO.

Headquarters for Good

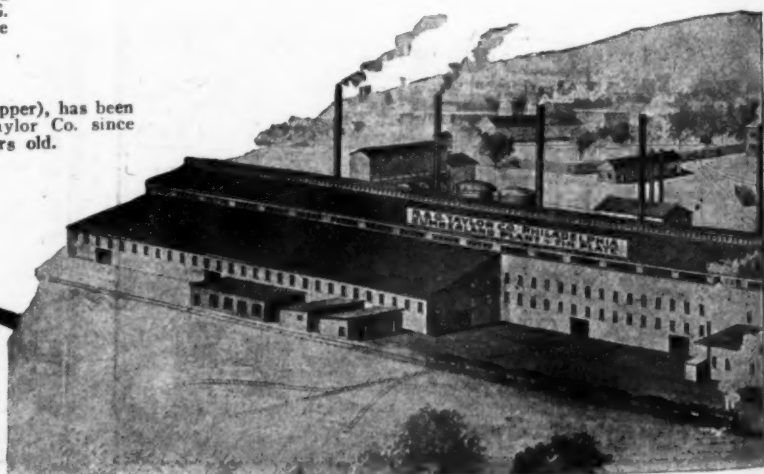
DAVID THOMAS (tinner) born in Swansea, Wales, in 1858. He learned his trade in a tin mill in the old country. He has been making tin plate for the Taylors for the past thirty years and is still going strong.

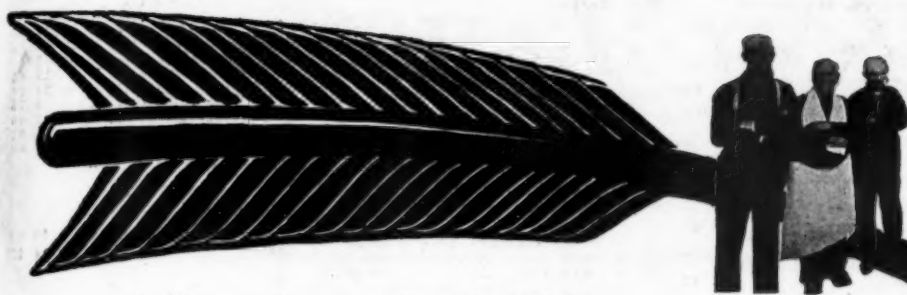
HERMAN A. NOLTE (night foreman of hot mill). Rolling mill worker since boyhood. Began work in this mill about thirty years ago.

HOWARD BRINKMAN (foreman of hot mill). Has worked in the mill since 1900. Two of his boys are working in the hot mill, one of them being a roller.

PHILIP MISCO (re-dipper), born in Austria. Was naturalized 1915. Worked for the N. & G. Taylor Co. ever since he came to this country in 1904.

WILLIAM BOYD (re-dipper), has been with the N. & G. Taylor Co. since he was sixteen years old.





HOT MILL ROLLERS

WILLIAM A. DAVIS. Born in Swansea, Wales, in 1854, where he worked in black plate mill from the age of nine years. Came to the United States in 1898. Naturalized 1910. Has been with this mill since 1899. A son is also a roller in this mill. Owns his home.

HARRY IRVINE. Born in Philadelphia in 1873. Has been a roller for the N. & G. Taylor Company since 1900. Owns his home.

ERNEST F. SCHAIDT. Born 1872 in Cumberland, Md. Has been with the Taylor Company since 1900. Owns his home.



Three generations of Storers—all working in the Taylor plant—typical of the loyalty and steadfastness of Taylor employees.

and ARROW

learned their trade from experts, who gained their experience in the tin mills of Wales at a time when Welsh tin plate makers were the best in the world.

The management has always been under the personal direction of members of the Taylor family. Their experience as directors of this important industry covers a period of 113 years, during which time they have held firmly to the slower but time tested methods of manufacture rather than to adopt the newer, quicker, but less thorough processes. Yet they are ever alert in their watchfulness for new things in science that, incorporated in their mill practices, will reduce costs without in any way reducing quality.

Today Target-and-Arrow is the same quality of roofing tin supplied to the sheet metal trade for nearly a century. Those who use it today will get the same satisfaction as those who put it on their buildings four generations ago.

Send for "The Second Generation Speaks" and read of the ten Taylor roofs with an aggregate life of more than 550 years.

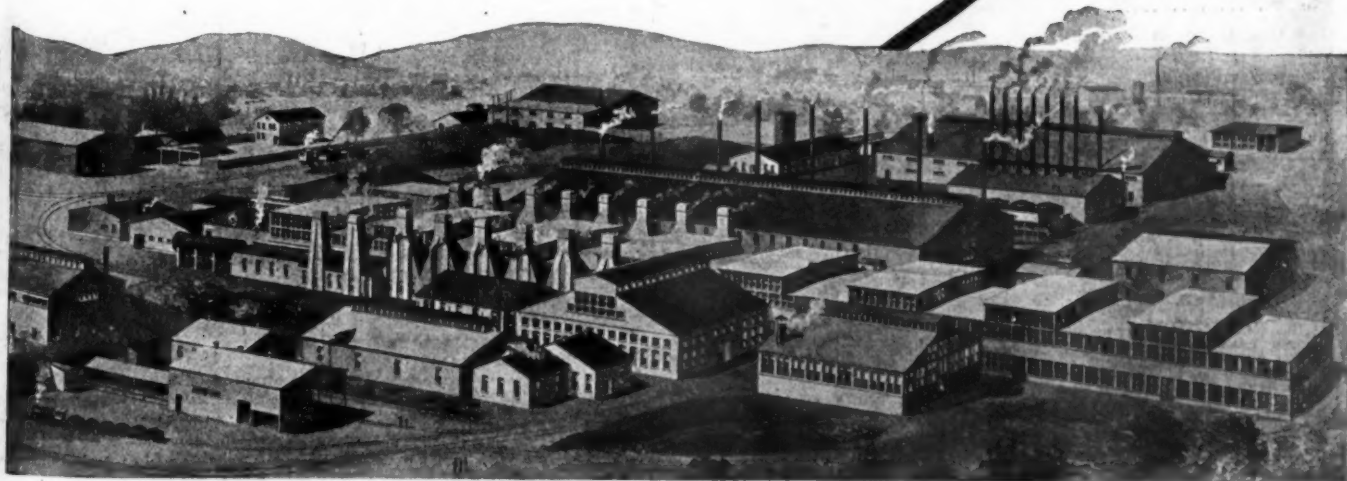
**OFFICES: PHILADELPHIA, PENNA.
MILLS: CUMBERLAND, MD.**

Roofing Tin since 1810

ROBERT HALL SCOTT (foreman tin house), born in Philadelphia in 1891. Worked for the N. & G. Taylor Co. since he was fourteen years old. Has been Tin House Foreman since 1917.

JOSEPH RAYMOND (tinner), born December 24, 1882, in Galicia. Came to the U. S. in 1903. Naturalized 1911. Worked for the N. & G. Taylor Co. since 1904.

BEN. PRICE, SR. (tinner), who has been making tin plate for 38 years! Born in Aberavon, Wales. He started to work there in a tin plate mill. Later he came to this country and has been with the Taylor Company since 1909.



Uniform, Collar Adjustable.	
5-inch	Doz. \$2 00
6-inch	Doz. 3 10
7-inch	Doz. 3 60

WOOD FACES—50% off list.

FENCE.	
Field Fence	60%
Lawn "	53%

FILES AND RASPS.

Heller's (American)	65-5%
American	65-5%
Archie	60 & 10%
Black Diamond	60-6%
Eagle	60-10%
Great Western	60 & 10%
Kearney & Foot	60 & 10%
McClellan	60 & 10%
Nicholson	60-14%
Simonds	60%

FIRE POTS.

Ashton Mfg. Co.	
Complete line	
Firepots and Torches	52%

Otto Berns Co.

No. 1 Furn. Gasolene with large shield, 1 gal.	\$ 6 75
No. 2 Furn. Kerosene, 1 gal.	15 12
No. 10 Brazier, Kerosene or Gasolene, 10 gals.	47 52
No. 5 Torch, Gasolene or Kerosene, 1 pt.	7 92
No. 55 Torch, Gasolene, 1 quart	5 40
No. 56 Torch, Gasolene, 1 pt.	4 05

Clayton & Lambert's.

East of west boundary line of Province of Manitoba, Canada, No. Dakota, So. Dakota, Nebraska, Kansas, Oklahoma, Amarillo, San Angelo and Laredo, Texas	52%
West of above boundary line	48%

Geo. W. Diener Mfg. Co.

No. 92 Gasolene Torch, 1 qt.	\$ 5 55
No. 9250, Kerosene or Gasolene Torch, 1 qt.	7 50
No. 10 Tinner's Furn. Square tank, 1 gal.	12 60
No. 15 Tinner's Furn. Round tank, 1 gal.	12 00
No. 21 Gas Soldering Furnace	3 60
No. 110 Automatic Gas Soldering Furnace	10 50

Double Blast Mfg. Co.

Gasolene, Nos. 25 and 35	40%
--------------------------	-----

Quick Meal Stove Co.

Vesuvius, F.O.B. St. Louis	30%
(Extra Discet. for large quantities)	

Chas. A. Hones, Inc.

Buzzer No. 1	\$ 9 00
" " 2	12 00
" " 22	13 50
" " 42	15 00
" " 43	19 00

FREEZERS—ICE CREAM.

Peerless and Alaska	
1 quart	\$2 95
2 quart	2 45
3 quart	4 10
White Mountain	
1 quart	\$3 50
1 quart	4 90
2 quart	5 70

GALVANIZED WARE.

Pails (Competition), 8-qt.	\$1 95
10-qt.	2 25
12-qt.	2 50
14-qt.	2 75

Wash tubs, No. 1	\$6 75
No. 2	7 00
No. 3	8 25

GARAGE DOOR HARDWARE.

Stanley	All net
---------	---------

GAUGES.

Marking, Mortise, etc.	Nets
------------------------	------

Wire.	
Disston's	35%

GIMLETS.

Discount	65% and 10%
----------	-------------

GLASS.

Single Strength, A and B, all sizes	83 & 85%
Double Strength, A, all sizes	84%

GREASE, AXLE.

Frazers	
1-lb. tins, 36 to case, per case	\$ 4 75
3-lb. tins, 24 to case, per case	7 50
5-lb. tins, 12 to case, per case	7 25
10-lb. tins, per dozen	10 40
15-lb. tins, per dozen	13 80
25-lb. tins, per dozen	19 80

HAMMERS, HANDLED.

All V. and B.	Each, net
---------------	-----------

Blacksmiths' Hand, No. 0,	
26-oz.	\$1 00

Engineers' No. 1, 26-oz.	1 00
--------------------------	------

Farrier's, No. 7, 7-oz.	93
-------------------------	----

Machinists', No. 1, 7-oz.	78
---------------------------	----

Nail.	
-------	--

Vanadium, No. 41, 20-oz.	each 1 45
--------------------------	-----------

Vanadium, No. 41½, 16-oz.	each 1 45
---------------------------	-----------

V. & B., No. 11½, 16-oz.	each 1 04
--------------------------	-----------

Garden City, No. 111½, 16-oz.	each 87
-------------------------------	---------

Tinner's Riveting, No. 1, 8-oz.	each 82
---------------------------------	---------

Shoe, Steel, No. 1, 18-oz.	each 65
----------------------------	---------

Tack.	
-------	--

Magnetic.	
-----------	--

No. 5, 4-oz., each	72
--------------------	----

HAMMERS, HEAVY.

Farrier's	30%
Mason's	
Single and Double Face	50%

HANDLES.

Axe.	
Hickory, No. 1	per doz. 4 00
Hickory, No. 2	" 3 00
1st quality, second growth	6 00
Special white, 2nd growth	5 00

Chisel.

Hickory, Tanged, Firmer	
Assorted	per doz. 55c
Hickory, Socket, Firmer,	
Assorted	per doz. 70c

File	per doz. \$1 20
------	-----------------

Hammer and Hatchet.	
---------------------	--

No. 1 per doz.	\$0 90
----------------	--------

Second growth hickory,	
per doz.	1 50

Soldering.	
------------	--

Per doz.	\$2 40
----------	--------

HANGERS.

Conductor Pipe.	
-----------------	--

Milcor Perfection Wire	25%
------------------------	-----

Eaves Trough.	
---------------	--

Steel hangers	30%
---------------	-----

Triple Twist wire	10%
-------------------	-----

Milcor Eclipse Wire	35%
---------------------	-----

Milcor Triplex Wire	15%
---------------------	-----

Milcor Milwaukee Extension	15%
----------------------------	-----

Milcor Steel (galv. after form- ing)	List plus 12½%
--------------------------------------	----------------

Milcor Selflock E. T. Wire,	
List plus	40%

HASPS.

Hinge, Wrought, with staples, Net	
-----------------------------------	--

HATCHETS.

V. and B. Supersteel.	Each
-----------------------	------

Broad, No. 1, 24-oz.	\$1 43
----------------------	--------

Half, No. 1, 18-oz.	1 25
---------------------	------

Half, No. 2, 27-oz.	1 25
---------------------	------

Claw, No. 1, 19-oz.	1 31
---------------------	------

Flooring, No. 1, 20-oz.	1 43
-------------------------	------

Shingling, No. 1, 17-oz.	1 20
--------------------------	------

Lathing, No. 1, 14-oz.	1 20
------------------------	------

Lathing, No. 2, 17-oz.	1 25
------------------------	------

Vanadium Steel.	
-----------------	--

Half, No. 63, 22-oz.	\$1 82
----------------------	--------

Underhill Pattern Lathing,	
9 row, 19-oz.	2 29

HINGES.

Heavy Strap, in Bundles.	
--------------------------	--

4 inch, dozen prs.	\$1 12
--------------------	--------

5 " " "	1 57
---------	------

6 " " "	1 93
---------	------

8 " " "	2 21
---------	------

Extra Heavy T in Bundles.	
---------------------------	--

4 inch, dozen prs.	\$1 74
--------------------	--------

5 " " "	1 85
---------	------

6 " " "	2 21
---------	------

8 " " "	2 97
---------	------

HOES.

Garden	Net
--------	-----

HOOKS.

Box.	
------	--

V. and B. No. 9, each	\$0 26
-----------------------	--------

Conductor.	
------------	--

Milcor	
--------	--

"Direct Drive" Wrought	
------------------------	--

Iron for wood or brick	15%
------------------------	-----

Cotton.	
---------	--

V. and B. No. 2, each	24
-----------------------	----

Hay.	
------	--

V. and B. No. 1, each	26
-----------------------	----

Bar Meat.

V. and B. No. 26, %"	09
----------------------	----

V. and B. No. 26, %"	16
----------------------	----

each	
------	--

Screw Meat.	
-------------	--

V. and B. No. 2, per gro.	6 50
---------------------------	------

Butchers' "G."	
----------------	--

V. and B. No. 6, each	93
-----------------------	----

V. and B. No. 8, each	11
-----------------------	----

HOSE.

%-in. 2 ply molded	Per Ft. 9½c to 12½c
--------------------	---------------------

%-in. cord	8½c to 10c
------------	------------

%-in. wrapped	13½c
---------------	------

HUMIDIFIERS.

"Front-Rank," Automatic.	
--------------------------	--

In single lots	50%
----------------	-----

In lots of 10 or more	50-55%
-----------------------	--------

In lots of 25 or more	50-10%
-----------------------	--------

Vapor pans, etc., each	50%
------------------------	-----

IRONS.

Sad.	
------	--

Genuine Mrs. Potts, nickel	
----------------------------	--

plated, per set	\$1 55
-----------------	--------

Asbestos No. 70, per set	2 10
--------------------------	------

Asbestos No. 100, per set	2 30
---------------------------	------

E. C. Stearns.	
----------------	--

No. OA Corner, doz. sets	\$2 50
--------------------------	--------

No. OB " "	2 75
------------	------

KNIVES.

Butcher.	
----------	--

Beechwood Handles, 6-inch	blade 25%
---------------------------	-----------

Beechwood Handles, 7-inch	blade 35%
---------------------------	-----------

Beechwood Handles, 3-inch	blade 25%
---------------------------	-----------

Cooper's Hoop	25%
---------------	-----

Drawing.	
----------	--

Standard	25%
----------	-----

Adjustable	25%
------------	-----

Barton's Carpenters'	25%
----------------------	-----

Hay.	
------	--

Iwan's Solid Socket	25%
---------------------	-----

Heath's	25%
---------	-----

Iwan's Sickle Edge	25%
--------------------	-----

Iwan's Imp'd Serrated	25%
-----------------------	-----

Hedge.	
--------	--

Challenge	25%
-----------	-----

Disston's No. 1	25%
-----------------	-----

Putty.	
--------	--

Common	25%
--------	-----

Lander's	25%
----------	-----

Scraping.	
-----------	--

Beech Handles	25%
---------------	-----

Lander's	25%
----------	-----

KNOBS.

Door.	
-------	--

Mineral	per doz. \$2 00
---------	-----------------

Porcelain	" 2 00
-----------	--------

Jet	" 2 00
-----	--------

LADDERS.

Step.	
-------	--

Common, per ft.	28c
-----------------	-----

Common, with Shelf, add 10c	
-----------------------------	--

IXL	34c
-----	-----

Challenge, 6 to 9 ft.	55c
-----------------------	-----

10 to 16 ft.	60c
--------------	-----

Kant-Break, per lineal ft.	75c
----------------------------	-----

LANTERNS.

Monarch tin, hot blast	\$ 3 25
------------------------	---------

Diets No. 2, cold blast	13 00
-------------------------	-------

Best tubular	8 25
--------------	------

Competition lanterns No. 0	
----------------------------	--

SHEET COPPER

FOR ROOFING and CORNICE WORK

ALSO
SPECIAL COLD ROLLED RESQUARED STRIP

Ideal for Conductor, Gutters, Valleys, Flashings,
Gravel Stops, etc.



MERCHANT & EVANS CO.

PHILADELPHIA

NEW YORK

CHICAGO

CLEVELAND

KANSAS CITY

WHEELING

This is as fine an
ear as can be made.
Perfect, fine finish
and nicely tinned.
Write today for
samples.



BERGER'S WROUGHT STAR EARS

Furnished
in gross
boxes or in
bulk to
suit the
purchaser

We can
furnish sizes
20, 30 & 40
stamped
from sheet
brass.

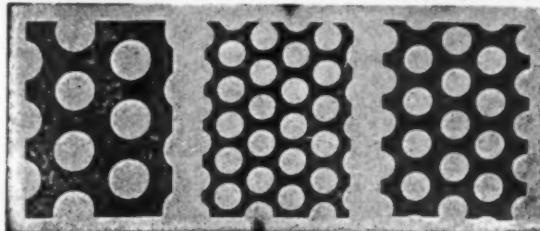
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Write today for our catalog which illustrates our complete line of ears

BERGER BROS. CO.

229 to 237 ARCH STREET
WAREROOMS AND FACTORY: 100 to 114 BREAD STREET
PHILADELPHIA, PA.

PERFORATED METALS



All Sizes and Shapes of Holes
In Steel, Zinc, Brass, Copper, Tinplate, etc.
For All Screening, Ventilating and Draining

EVERYTHING IN PERFORATED METAL

THE HARRINGTON & KING PERFORATING CO.

610 NORTH UNION ST.-CHICAGO, ILL. U. S. A.
NEW YORK OFFICE, 114 LIBERTY ST.

Steel Ceilings

Side Walls and Cornices

Only first quality material used
Many neat designs of character.

Write today for our complete cata-
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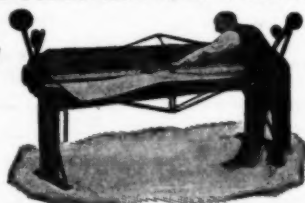
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Junction Ave. and Federal St. and
436 Penobscot Bldg. Detroit, Michigan

NEW CHICAGO ROTARY SLITTING SHEAR

Used in Connection with a Cornice Brake

Guaranteed
to Cut
24-Gauge
Iron



Will Split
a Sheet
or
Cut Strips
at
Any Angle

Write now for information

MAPLEWOOD MACHINERY CO.

Dealers in New and Used Machinery
2547-49 Fullerton Ave. CHICAGO, ILL.

"THE STANDARD"

Ventilator



IS of the rotatable type and swings ab-
solutely free in the slightest draft.
The construction is scientifically correct
and unusually strong. It works per-
fectly in all kinds of weather and handles
50% more air than stationary ventilators of
equal size. Order from your jobber. Write for
our catalog and prices today.

Manufactured by

STANDARD VENTILATOR CO.

LEWISBURG, PA.

CORTRIGHT METAL SHINGLE

Why Hand-dipped Shingles Last Longer

Hand-dipped shingles are first formed out of prime
roofing tin, and then dipped in molten zinc. A uniform
coating adheres to both sides and all edges.

We also make shingles of tight-coated galvanized
sheets and of tin. The latter we paint either red or green.

CORTRIGHT
Philadelphia



METAL ROOFING CO.
Chicago

STANDARD

SINCE 1887

PAIERS.

Cream.			
14-qt. without gauge.	per doz.	\$9	50
18-qt. without gauge.	per doz.	11	00
20-qt. without gauge.	per doz.	11	75

Sap.			
10-qt. IC Tin	per doz.	\$4	00
12-qt.		5	50

Stock.			
Galv. qts. 14 16 18 20			
Per doz.	\$9 75 10 75 12 75 14 50		

Water.			
Galvanized qts. 10 12 14			
Per doz.	\$5 75 6 50 7 25		

PASTE

Asbestos Dry Paste:			
200-lb. barrel		\$15	00
100-lb. barrel		8	00
35-lb. pail		2	25
10-lb. bag		1	00
5-lb. bag		55	
2 1/2-lb. cartons		30	

PINCERS.

All V. & B.			
Carpenters', cast steel.			
No. 6 8 10 12			
Each	\$0 43 \$0 52 \$0 61 \$0 71		
Blacksmiths', No. 10.		\$0	64

PIPE.

Conductor.			
"Interlock" Galvanized.			
Crated and nested (all gauges)		60-7 1/2%	
Crated and not nested (all gauges)		60-3 1/4%	
Square Corrugated A and B and Octagon.			
20 Gauge		60-10%	
22 "		60-10%	
24 "		60-10%	
26 "		60-10%	

"Interlock."

Crated and nested (all gauges)		60-7 1/2%	
Prices for Galvanized Toncan Metal, Genuine O. H. Iron, Lyenmore Metal and Keystone C. B. on application.			

Stove.

Per 100 joints.			
26 gauge, 5 inch E. C.			
nested		\$16	00
26 gauge, 6 inch E. C.			
nested		17	00
26 gauge, 7 inch E. C.			
nested		19	00
28 gauge, 5 inch E. C.			
nested		14	00
28 gauge, 6 inch E. C.			
nested		15	00
28 gauge, 7 inch E. C.			
nested		17	00
30 gauge, 5 inch E. C.			
nested		13	00
30 gauge, 6 inch E. C.			
nested		14	00
30 gauge, 7 inch E. C.			
nested		16	00
T-Joint Made up.			
6-inch	per 100	\$40	00

Furnace Pipe.

Double Wall Pipe and Fittings		33 1/2%	
Single Wrt Pipe, Round Pipe Fittings		33 1/2%	
Galvanized and Back Iron Pipe, Shoes, etc.		33 1/2%	
Milcor Galvanized		40%	

PLANES.

Stanley Iron Bench		Net	
--------------------	--	-----	--

PLIERS.

(V. & B.)			
Net, No. 2, each		\$2	00
" No. 5, each		44	
" No. 25, each		69	
Gas, No. 7, each		55	
" No. 8, each		61	
" No. 12, each		87	
Lining or Crimping.			
No. 25, each		64	
Butter's Pattern.			
No. 6 each		61	
No. 8 each		74	
Double Duty, No. 106		50	

POINTS, GLAZIERS.

No. 1, 2 and 3.	per doz. pkgs.	\$50	
-----------------	----------------	------	--

POKERS, STOVE.

Wrt Steel, str't or bent.	per doz.	\$0	75
Nickel Plated, coil handles		1	10

POKERS, FURNACE.

Each		\$0	50
------	--	-----	----

PULLEYS.

Furnace Tackle	per doz.	\$0	60
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Per gross		6	00
" Screw (en-cased)	per doz.	\$0	85

Ventilating Register.

Per gross		\$9	00
Small, per pair		0	30
Large, per pair		0	50

PUNCHES.

Machine.	Each.		
V. & B., No. 11-13, 1 1/4 x 8.		\$0	19
V. & B., No. 90, 3/4 x 9.		37	
V. & B., No. 10, 3/4 x 10.		29	
V. & B., No. 1-6, 1/2 x 6.		12	

Center.

V. & B., No. 50, 3/4 x 4.		\$0	14
---------------------------	--	-----	----

Belt.

V. & B., No. 101-103.		\$0	24
V. & B., No. 108-109.		33	
V. & B., No. 25, asst.		3	30

Samson Line.

No. 1 Hand	Doz. lots or less	40%	
No. 2 Hand	3 doz. lots	Less 40 & 5%	
No. 4 Hand	6 doz. lots or more	Less 50%	

No. 3 Bench	Less than doz. lots	Less 25%	
	Doz. lots or more	Less 40%	

Extra Punches and Dies for Samson.

No. 1 Hand	Less than doz. lots	Less 25%	
No. 3 Hand	Doz. lots	Less 33 1/2%	
No. 4 Hand	3 doz. lots	Less 40%	
No. 3 Bench	6 doz. lots or more	Less 40 & 10%	

PUTTY.

Commercial Putty, 100-lb. kits		\$3	55
--------------------------------	--	-----	----

QUADRANTS.

Malleable Iron Damper		10%	
-----------------------	--	-----	--

RAZORS—SAFETY.

Gillette	per doz.	\$45	00
Auto Strop		45	00
Gem		40	
Gem (3 doz. lots)		30	
Every Ready		40	
Ever Ready (3 dz. lots)		30	

RAZORS STRAIGHT.

RAZOR STROPS.

Star (Healing)		50%	
----------------	--	-----	--

FLOOR REGISTERS AND BORDERS.

Cast Iron		30%	
Steel and Semi-Steel		33 1/2%	
Baseboard		33 1/2%	
Adjustable Ceiling Ventilators		33 1/2%	

Register Faces—Cast and Steel

Japanned, Bronzed and Plated.		33 1/2%	
4x6 to 14x14		33 1/2%	
Large Register Faces—Cast.		60%	
14x14 to 38x42		60%	
Large Register Faces—Steel.		65%	
14x14 to 38x42		65%	

ROOFING.

Per Square			
Best grade, slate surf. prep'd	\$1	85	
Best talc surfaced	2	20	
Medium talc surfaced	1	50	
Light talc surfaced	95		
Red Rosin Sheeting, per ton	\$72	00	

Cotton.

1st Quality, base 14 1/4 c to 16 1/4 c			
No. 2		13 1/4 c to 15 c	

Manila.

1st Quality standard brands		18 1/4 c to 20 1/4 c	
No. 2		17 c to 18 1/4 c	
Hardware Grade, per lb.		17 1/4 c	

SAWS.

Butchers'.			
Atkins No. 2, 14-in.		\$12	75
" No. 2, 18-in.		14	20
" No. 7, 16-in.		15	85
" No. 2, 22-in.		15	92
" No. 7, 20-in.		18	05
" No. 7, 24-in.		20	20
" No. 7, 28-in.		22	25

Compass.

Atkins No. 2, 10-in.		\$	5 45
" No. 10, 10-in.		5	60
" Blades, No. 2, 10-in.		3	25
" " No. 2, 10-in.		3	30

Cross-Cut.

Atkins No. 221, 4 ft.		\$3	03
" No. 221, 6-ft.		4	45
" No. 221, 8-ft.		6	07

Hand.

Copper Burrs only		30%	
" No. 36, 20-in.		21	70

Hand and Rip.

Atkins No. 54, 20-in.		\$19	50
" No. 54, 26-in.		24	40
" No. 53, 16-in.		18	10
" No. 53, 20-in.		22	90
" No. 53, 24-in.		26	00
" No. 53, 28-in.		31	45
" No. 53, 30-in.		34	15

Keyhole.

Atkins No. 1, complete.		\$3	10
" No. 2, complete.		3	70

Miter Box.

Atkins No. 1, 4x20.		\$32	65
" No. 1, 5x22.		30	00
" No. 1, 6x22.		42	30

Fruiting.

Atkins No. 20, 12-in.		\$	8 45
" No. 10, 16-in.		18	15

Wood.

Atkins No. 302.		\$	7 19
" No. 315.		8	75
" No. 908.		15	50
" No. 1509.		16	55

SCRAPERS.

Box.			
No. 4, six blades each		35c	
Hog.			
No. 6, each		35c	
Floor (Stearns).			
No. 10, each		\$11	50

SCREEN DOOR HINGES.

Cast Iron	gross	\$12	00
Steel		9	50

SCREWS.

Wood.			
F. H. Bright		20%	
R. H. Blued		78%	
F. H. Jap'd		74%	
F. H. Brass		76%	
R. H. Brass		74%	

Sheet Metal.

No. 7, 1/2 x 1/2, per gross.	\$0	55	
No. 10, 1/2 x 1/2, per gross.	75		
No. 14, 1/2 x 1/2, per gross.	90		

SCREW DRIVERS.

Uncle Sam Standard Head.			
3 inches, each		\$	45
5 inches, each		53	
8 inches, each		63	
12 inches, each		1	02

Uncle Sam Insulated Head.

3 inches, each		\$	49
5 inches, each		57	
8 inches, each		76	
12 inches, each		1	14

SETS.

Nail.			
V. & B.			
No. 100, in cardboard boxes		doz.	\$1 50
No. 100, in wooden boxes		doz.	1 00
No. 20, assorted		doz.	30
No. 5, in cardboard boxes		doz.	1 35
No. 5, in wooden boxes		doz.	1 20

Rivet.

V. & B.			
Farmers'		\$0	10
Tinners' 3-4		0	40
00-0		0	00

Saw.

Atkins No. 10	per doz.	\$3	30
" No. 12		4	20

SHEARS.

Nickel Plated, Straight	6"	\$12	00
" " " "	7"	14	00
" " " "	8"	16	00
Japanned, Straight		11	00
" " " "		12	40
" " " "		13	00

SHEARS, TINNERS' & MACHINISTS.

Viking		\$22	00
Lennox Throatless.			
No. 18		35%	
Shear blades		10%	
(f.o.b. Marshalltown, Iowa.)			
Peerless Steel Squaring.			
Foot Power.			
No. 1-20", 18 ga. cap.		15%	
No. 2-30", 18 ga. cap.		15%	
No. 4-52", 18 ga. cap.		15%	
No. 10-120", 22 ga. cap.		15%	
No. 4A-52", 16 ga. cap.		15%	
Cast Iron Foot Power.			
No. 01, 30", 18 ga. cap.		15%	
Power Driven.			
(No. 100 Series, 2 Shaft Drive)		15%	
No. 142-42", 18 ga. cap.		15%	
(No. 200 Series, 2 Shaft Underneath Drive)		15%	
No. 242-42", 14 ga. cap.		15%	
(No. 300 Series, 3 Shaft Underneath Drive)		15%	
No. 342-42", 10 ga. cap.		15%	
No. 372-72", 10 ga. cap.		15%	
(No. 500 Series, 3 Shaft Underneath Drive)		15%	
No. 596-56", 10 ga. cap.		15%	
(No. 600 Series, 3 Shaft Underneath Drive)		15%	
No. 6120-120", 3/16" cap.		15%	

SHINGLES.

Per Square			
Zinc (Illinois)		\$18	00

SHOES.

M

Quality & Beauty IN ART METAL CEILINGS AND SIDE WALLS

QUALITY—only first quality material is used in making FRIEDLEY-VOSHARDT ART METAL CEILINGS AND SIDE WALLS.

BEAUTY—is necessary for the complete and lasting satisfaction of your customers.

Having one of the finest equipped sheet metal plants in the country and employing only skilled workers enables us to serve you with **QUALITY** goods having the **BEST** DESIGNS.

Write Today for Catalog No. 33

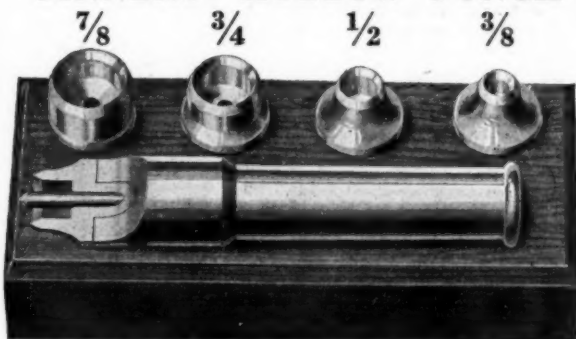
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FACTORY
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Write today for descriptive circular giving sizes and prices

WHITNEY METAL TOOL COMPANY 93 Forbes Street
Rockford, Illinois



No. 61 Red-Hot
Fire Pot

Something Worth While

Our No. 61 Coil Fire Pot is the best and most Reliable Coil Fire Pot made. Tank is made of heavy gauge, seamless drawn steel, tinned inside and out, rust proof, fitted with extra large funnel and filler plug with dust proof cap. Every mechanic should have one of these fire pots.

Jobbers supply at factory prices.
Send for free catalog.

ASHTON MFG. COMPANY

Newark, N. J., U. S. A.

C. & L. TORCHES THE STANDARDIZED LINE



No. 208 Torch
List Price Each, \$17.50
Ask for Discount

We have reduced and standardized our line to ten styles of Torches and seven Fire Pots, which have proven most popular with the trade, eliminating nonessential tools. The No. 208 Double Blunt Needle Torch is the best, having all up-to-date improvements that save the user time and fuel. Double Needle Burners overcome fully 60% of all burner troubles. The name on the tool is a guarantee of service. Jobbers supply at factory prices. Write for a catalogue.

CLAYTON & LAMBERT MFG. CO.
10635 Knodell Ave. DETROIT, MICH., U.S.A.

HOTTEST and QUICKEST

Heating Gas Soldering Furnaces
built without a Blower.

BUZZER

Reg. U. S. Pat. Off.

Automatic Blast Gas Soldering
Furnaces, Soft Metal
Furnaces, Burners, etc.

For the past 12 years
they have withstood
severest tests.

SENT ON 10
DAYS' TRIAL

Complete folder sent
on request



BUZZER No. 22
Complete With Pot

Patented June 14, 1921

CHAS. A. HONES, INC. 123 Grand Avenue
Baldwin, N. Y.

SAMSON HAND PUNCH

RETAIL PRICE

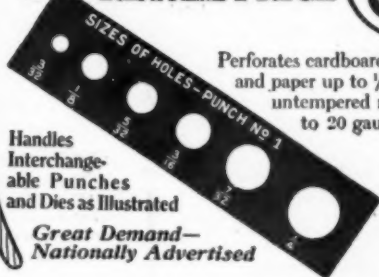
\$3.00



Extra Punches
and Dies for Tool
40c
Per Size

Handles
Interchange-
able Punches
and Dies as Illustrated

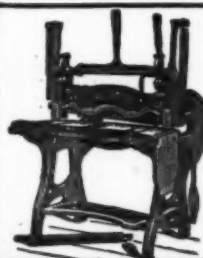
Great Demand—
Nationally Advertised



Perforates cardboard, leather
and paper up to 1/8". Thru
untampered metal up
to 20 gauge.

Write
for
Prices
and
Catalog

THE MACHINE APPLIANCE CORPORATION
351 JAY STREET
BROOKLYN, N. Y.



TREADLE SHEAR

This TREADLE GAP SHEAR is
made in all standard sizes for No.
14 and lighter gauge sheets. With
it, sheets can be squared, trimmed
or slit.

We make a complete line of
shears, punches and bending rolls,
all sizes for hand or belt drive.
Write for Catalog "S."

BERTSCH & COMPANY Cambridge City, Ind.

Plecker's Galvanized Eave Trough and Corrugated Expanding Conductors

Made of
Keystone
Copper Bearing
Steel

CLARK-SMITH HARDWARE CO.

Costs no more
Lasts Longer
Therefore
Cheaper

PEORIA, ILLINOIS

SNIPS, TINNERS'.

Clever Leaf	40 & 10%
National	40 & 10%
Star	50%
Milcor	Net

SQUARES.

Steel and Iron	Net
(Add for bluing, \$3.00 per doz. net)	
Mitre	"
Try	"
Try and Bevel	"
Try and Mitre	"
Fox's	per doz. \$5 00
Winterbottom's	10%

STAPLES.

Blind	
Barbed	per lb. 21 @ 22c
Butter, Tub	" 16 @ 19c
Fence—	
Polished	per 100 lbs. \$5 45
Galvanized	" 6 15
Netting	
Galvanized	per 100 lbs. \$6 54
Wrought	
Wrought Staples, Hasps and	
Staples, Hasps, Hooks and	
Staples, and Hooks and	
Staples	50 & 10%
Extra heavy	35%

STONES.

Axe	
Kindastan	per lb. New Nets
More Grite	"
Washita	"
Emery	
No. 126	per doz. New Nets
Oil—Mounted	
Arkansas Hard	
No. 7	per doz. New Nets
Arkansas Soft	"
Washita No. 717	"
Oil—Unmounted	
Arkansas Hard	per lb. New Nets
Arkansas Soft	"
Lilly White	"
Queer Creek	"
Washita	"
Seythe	
Black Diamond	per gro. New Nets
Crescent	"
Green Mountain	"
Lafayette	"
Extra Quinne-	"
Red End	"

STOPS, BENCH.

No. 10 Morrill pat-	
tern	per doz. \$11 00
No. 11 Stearns pat-	
tern	" 10 00
No. 15 Smith pat-	
tern	" 7 00

STOPPERS, FLUE.

Common	per doz. \$1 10
Gem. No. 1	" 1 10
Gem. flat, No. 3	" 1 00

STRETCHERS.

Carpet	
Bullard's	per doz. \$3 90
Excelsior	" 5 25
Malleable Iron	" 70
Perfection	" 6 30
King	" 4 50

Wire	
O. S. Elwood, No. 1	per doz. Nets
O. S. Elwood, No. 2	"

SWIVELS.

Malleable Iron	per lb. \$0 10
Wrought Steel	per gro. 4 50

TACKS.

Bill Posters' 6-oz. 25-lb. boxes	
per lb.	15c
Upholsterers' 6-oz. 25-lb.	
boxes, per lb.	15 1/2 c

TAPES, MEASURING.

Asses' Skin	List & 40%
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THERMOMETERS

Tin Case	per doz. \$0c & \$1 25
Wood Backs	" \$2 00 & 12 00
Glass	" 12 00

TIES.

Bale	
Single Loop, carload	
lots	75 & 7%
Single Loop, less than	
car lots	70 & 15%

TRAPS.

Mouse and Rat	Per Gross
Sure Catch Mouse Traps	\$ 2 10
Vim Mouse Traps	2 10
Short Stop Mouse Traps	1 80
Wood Choker Mouse	
Traps, 4 hole	10 25

Per Doz.

Sure Catch Rat Traps	\$0 90
Dead Easy Rat Traps	1 00

Baskets.

Packed in One Bushel Band Stave	
List per Bushel	
Sure Catch Mouse Traps	
(300 Traps)	\$ 5 25
Short Stop Mouse Traps	
(300 Traps)	4 50
Sure Catch Rat Traps (54	
Traps)	3 60
Short Stop Rat Traps (54	
Traps)	3 15

Assorted Mouse and Rat Traps.

List per Bushel	
Sure Catch (216 Mouse	
Traps and 26 Rat Traps)	\$4 90
Short Stop (216 Mouse	
Traps and 26 Rat Traps)	4 25

TROWELS.

Cement	
Atkins No. 6	\$19 50
" No. 9	25 50

TWINE.

White Cotton	
Eureka, 4-ply	per lb. 30c
Jute	
3-ply and 6-ply Bale Lots	22 1/2 c

VALLEY.

Milcor	
Galv. formed or roll	50-7 1/2 %

VENTILATORS.

Standard	30 to 40%
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VISES.

No. 700 Hand	
Inches	4 1/2 5 5 1/2
Doz.	\$11 15 13 00 14 35
No. 701	
In.	4 5 6
Doz.	\$11 15 13 00 16 70
No. 1. Genuine Wentworth,	
Noiseless Saw	per doz. 9 25
No. 2. Genuine Wentworth,	
Noiseless Saw	per doz. 12 75
No. 500. All Steel Folding	
Saw	per doz. 16 00

WASHERS.

Over 1/4 in. barrel lots	
per 100 lbs.	\$8 25
Iron and Steel	
In. 5/16	1/4 1/2 3/4
10 1/2 c 9 1/2 c 7 1/2 c 7 1/2 c 7 1/2 c	

WEATHER STRIPS.

Metallic Stitchee	
1/2 in. per 100 ft.	\$1 30
3/4 in. per 100 ft.	2 20
Wood and Felt	
1/2 in. per 100 ft.	\$1 50
3/4 in. per 100 ft.	1 55

WEIGHTS.

Hitching	per lb. Nets
Sash—f. o. b. Chicago	
Smaller lots, per ton	\$47 50

WHEEL BARROWS.

Common Wood Tray	\$3 75
Steel Tray, Competition	4 50
Steel leg, garden	6 00

WIRE.

Plain annealed wire, No. 8	
per 100 lbs.	\$3 70
Galvanized barb wire, per	
100 lbs.	4 10
Wire cloth—black painted,	
12-mesh, per 100 sq. ft.	2 35
Cattle Wire—galvanized	
catch weight spool,	
per 100 lbs.	4 60
Galvanized Hog Wire, 80 rod	
spool, per spool	3 98
Galvanized plain wire, No. 9,	
per 100 lbs.	4 15
Stove Pipe, per stone	1 10

WOOD FACES.

50% off list.

WRENCHES.

Coes Steel Handle, 6-in. 40-10%	
" " " 8-in. 40-10%	
" " " 10-in. 40-10%	
" " " 12-in. 40-10%	
Coes Knife-Handle, 6-in. 40-10%	
" " " 8-in. 40-10%	
" " " 10-in. 40-10%	
" " " 12-in. 40-10%	
Coes All Patterns	40-10%

WRINGERS.

No. 790, Guarantee	per doz. \$49 50
No. 770, Bicycle	" 47 00
No. 670, Domestic	" 43 50
No. 110, Brighton	" 39 00
No. 750, Guarantee	" 51 00
No. 740, Bicycle	" 48 50
No. 22, Pioneer	" 35 50
No. 2, Superb	" 25 50

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